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EVALUATION OF THE PUERTO RICO NUTRITION  
ASSISTANCE PROGRAM

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## Glossary of Acronyms

AFDC	Aid to Families With Dependent Children
ATP	Authorization to Participate cards
CAO	Food and Nutrition Service, Caribbean Area Office of the Mid-Atlantic Regional Office
DACO	Puerto Rico Department of Consumer Affairs
DSS	Puerto Rico Department of Social Services
FNS	Food and Nutrition Service
FSP	Food Stamp Program
GAO	U.S. General Accounting Office
GDB	Puerto Rico Government Development Bank
HNIS	USDA, Human Nutrition Information Service
MARO	Food and Nutrition Service, Mid-Atlantic Regional Office
MPC	Marginal Propensity to Consume
NAP	Nutrition Assistance Program
NFCS	Nationwide Food Consumption Survey
OASDI	Old Age, Survivors and Disability Insurance (Social Security)
OICD	USDA, Office of International Cooperation and Development
OIG	Office of the Inspector General
RDA	Recommended Dietary Allowance
SSI	Supplemental Security Income
USDA	U.S. Department of Agriculture

## Chapter I

### Overview of the Puerto Rico Nutrition Assistance Program and Its Evaluation

On July 1, 1982 the Commonwealth of Puerto Rico began operating a cash food assistance program known as the Nutrition Assistance Program (NAP). This new cash program replaced the Food Stamp Program (FSP) in Puerto Rico which had provided eligible low income individuals and families with assistance in the form of food coupons since 1974. This program change resulted from the requirement in the Omnibus Budget Reconciliation Act of 1981 (Public Law 97-35) that Puerto Rico's participation in the U.S. Food Stamp Program be replaced by an \$825 million annual block grant to provide food assistance for needy persons, and the subsequent choice by Puerto Rico to replace food coupons with direct cash assistance.

In 1982 the House Agriculture Committee conducted hearings on the Puerto Rico block grant and the resulting cash Nutrition Assistance Program. These hearings resulted in two legislated actions included under the Food Stamp Act Amendments in the Omnibus Reconciliation Act of 1982 (Public Law 97-253). Sections 184 a and b of the 1982 Act require that after Fiscal Year 1983, food assistance under the Puerto Rico block grant must be made available in forms other than cash. Section 184 c requires that the Secretary of Agriculture conduct a study of the cash food assistance program in Puerto Rico, its the impact on the nutritional status of residents and on the economy of Puerto Rico. Further, the mandate requires that a report of the findings be provided to the House and Senate Agriculture Committees no later than six months after the law's enactment (September 8, 1982). In accordance with the mandate, the Department of Agriculture is conducting an evaluation of the Puerto Rico Nutrition Assistance Program. This report presents the preliminary results of that evaluation.

#### The Commonwealth of Puerto Rico

The Commonwealth of Puerto Rico has a unique relationship to the Federal government. This section describes important characteristics of Puerto Rico and provides a context for discussion of the Nutrition Assistance Program.

Per capita personal income in Puerto Rico is among the highest in the Caribbean and has grown dramatically from \$296 in 1950 to \$3,918 in 1982. When adjusted for inflation, personal income has more than tripled during this period. However, per capita income in Puerto Rico is only half that of Mississippi (the poorest state), and poverty according to U.S. standards remains widespread. According to the 1975 Survey of Income and Education conducted by the Bureau of the Census, 62 percent of the population and 57 percent of all families in Puerto Rico were below the official U.S. poverty level. While 1980 census data are not yet available for Puerto Rico, the incidence of poverty is not expected to have decreased significantly.

Federal disbursements to the Commonwealth, as to states, substantially affect resident personal income. Prior to the enactment of the Puerto Rico Block Grant for nutrition assistance, Puerto Rico participated equally with states in the Food Stamp Program. As a result of the generally low income levels in Puerto Rico, food stamp benefits, the largest federal transfer program after social security, accounted for approximately seven percent of the 1981 personal income within the Commonwealth.

Although Puerto Rico's Commonwealth relationship is similar to that of a State in many respects, there are some important differences. Major differences which have some bearing on this evaluation include the fact that Puerto Rico residents:

- o Are exempt from federal income taxes;
- o Are excluded from participation in certain Federal programs including General Revenue Sharing and Supplemental Security Income (SSI);
- o Have limited participation (through appropriation ceilings) in certain Federal programs including Aid to Families with Dependent Children (AFDC), Social Services under Title XX, and Medicaid.

The issue of differential treatment of U.S. citizens residing in Puerto Rico has been addressed by the U.S. Supreme Court and continues to be an issue of debate. According to a March 2, 1981 U.S. General Accounting Office (GAO) Report to Congress:

"The Court, in two separate cases, rejected arguments that reduced funding levels and exclusion from certain Federal programs were unconstitutional. In the most recent case the Court concluded that the Congress may treat Puerto Rico differently from States as long as there is a rational basis, because the U.S.



While the block grant was initiated to reduce spending, it also allowed the Commonwealth considerable flexibility in designing a food assistance program to meet the needs of its low income population. The legislative requirements for the block grant include the following:

- o the grant is to provide food assistance to needy persons;
- o grant funds are to provide 100 percent of the cost of recipients' benefits and 50 percent of program administration costs;
- o grant funds may not exceed \$825 million annually beginning with Fiscal Year 1983; and \$206.5 million for the period July 1982 through September 1982;
- o Puerto Rico may use a small proportion of the block grant funds to finance projects to improve or stimulate agriculture, food production, and food distribution to increase the self sufficiency and nutritional standards of needy persons (House Report 97-208, volume 2, pages 656-657);
- o funding is contingent upon the Department of Agriculture's approval of the an annual Plan of Operation for the program.

#### The Nutrition Assistance Program

The Nutrition Assistance Program designed by the Commonwealth differs from the former Food Stamp Program in two important respects. First, Puerto Rico decided to replace food coupons with cash benefits and secondly, the block grant reduced funding levels to 75 percent of the projected Fiscal Year 1982 level and placed an \$825 million cap on annual funding.

During the Food Stamp Program, eligibility was based on a means test such that household resources could not exceed either of two specified limits on income and on assets. Eligible households received benefits in the form of food stamps whose value was calculated using information on household size, income, deductions, and the cost of an inexpensive but nutritious diet (USDA's Thrifty Food Plan).<sup>3/</sup> Food stamps could be used legally by recipients only as payment for eligible food purchases in authorized retail grocery stores and were intended to increase recipients' food purchasing power.

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<sup>3/</sup> Under the Food Stamp Program the Thrifty Food Plan for Puerto Rico was based on the cost of inexpensive but nutritious foods considered normal to the diet of the Puerto Rican population. In June 1982, Puerto Rico's Thrifty Food Plan allowed a family of four with no income a monthly FSP benefit of \$221.

Instead of food coupons, Nutrition Assistance Program recipients receive their benefits monthly in the form of a mailed check. The eligibility and benefit determination features of the Nutrition Assistance Program are similar to those of the former Food Stamp Program. However, specific provisions were changed to tighten program eligibility in order to keep the program within the legislatively reduced and capped budget. These changes include an eligibility determination based on lower limits for assets and income, and the use of a reduced value Thrifty Food Plan as the basis of issuance. Nutrition Assistance Program checks, unlike food coupons, are freely negotiable for currency. Like food coupons, the checks are intended to increase food purchasing power of recipients.

#### The Evaluation of the Nutrition Assistance Program

The evaluation of the Nutrition Assistance Program was designed around two primary points of interest. First, the conversion of the Food Stamp Program to the Nutrition Assistance Program is an important example of the concept of a block grant in which the Commonwealth assumes responsibility for designing and directing a major program which was previously controlled by the Federal government. As such it provides an opportunity to examine the process of switching control of a federal program to a local government. Among the intended effects of the block grant approach are increased administrative flexibility and increased responsiveness to local needs.

Second, the Nutrition Assistance Program represents a demonstration of significant changes from the Food Stamp Program including funding levels which are reduced and capped and cash benefits rather than coupons. Anticipated effects of these program changes include reductions in program participation, program benefits, administrative costs, and the potential for certain types of fraud and error.

Other effects on program participants, the retail food sector, and the general economy may also result from these program changes. While the immediate goal of both the Food Stamp Program and the Nutrition Assistance Program is to increase recipients' food purchasing power, the programs are designed to produce additional impacts. By increasing the food expenditures of low income households both programs should enable recipients to obtain a more nutritious diet. In addition, the increases in household food expenditures made possible by the programs directly increase business receipts in the

retail food sector, and eventually produce indirect economic effects on other interrelated business sectors including the agricultural sector. Both the reduced level of program funding and the change from food coupons to cash assistance under the Nutrition Assistance Program could lead to lower household food expenditures, reduced retail food sales, and reduced economic activity in other sectors within the Commonwealth.

### Evaluation Objectives

To provide a broad picture of the process of the change from the Food Stamp Program to the Nutrition Assistance Program and to assess its effects, the evaluation has examined information concerning NAP program features, recipients, retail food stores, and the general economy. The objectives of the evaluation of the Nutrition Assistance Program are to:

- (1) Describe the process of converting the Food Stamp Program in Puerto Rico to the cash benefit Nutrition Assistance Program.
- (2) Compare and contrast NAP and Food Stamp Program operations in terms of:
  - o Procedural differences;
  - o Participation and benefits,
  - o Administrative costs, and
  - o Program security against fraud and abuse.
- (3) Describe NAP recipient behavior in terms of:
  - o Experiences with food coupons and with NAP checks,
  - o Changes in food shopping patterns and purchases, and
  - o Preferences for cash versus coupons.
- (4) Describe food retailer experiences including:
  - o Estimates of and perceived reasons for changes in sales and number of paid employees,
  - o Check cashing policies and procedures,
  - o Changes in food assistance customers' shopping patterns and purchases,
  - o Changes in their marketing strategies, and
  - o Preferences for cash versus coupons.
- (5) Assess the impact of the Nutrition Assistance Program on retail supermarket sales.
- (6) Analyze the impact of the Nutrition Assistance Program on the general economy in Puerto Rico.
- (7) Analyze evidence of the impact of the Nutrition Assistance Program on nutrition in Puerto Rico.



The remainder of this report is divided into seven chapters representing each of the above objectives. Table I-1 summarizes the different data sources and methodologies employed to address each of these objectives.

The Food and Nutrition Service was responsible for the design and conduct of this evaluation. It was conducted under a cooperative agreement with the Puerto Rico Department of Social Services, the agency responsible for administering the former Food Stamp Program and the new Nutrition Assistance Program. The Department of Social Services made substantial contributions in providing data, reports, technical reviews, and general administrative support.

Table I-1  
Study Objectives, Data Sources, and Methodology

Objective	Data Sources	Methodology
1. Describe the process of converting the Puerto Rico Food Stamp to NAP	Reports from the Puerto Rico Department of Social Services (DSS) and the Food and Nutrition Service (FNS)	Case study
2. Compare and contrast NAP and Food Stamp Program operations	FNS and DSS reports; Food Stamp Program and NAP computer files of participants for months of June, July, and October 1982; DSS monthly accounting records	Before and after comparisons
3. Describe recipient behavior under NAP	DSS November 1982 household survey of 1,494 NAP recipients; samples of 1,000 NAP checks for the months of July, and October 1982.	Descriptive sample survey  Analysis of check endorsements
4. Describe food retailer experiences under NAP	FNS December 1982 survey of 954 retail grocery stores	Descriptive sample survey
5. Determine the impact of NAP on supermarket sales	Monthly gross sales data from July 1979 to November 1982 for 125 supermarkets	Cross-sectional time series analysis using regression model
6. Analyze the impact of NAP on the general economy in Puerto Rico	Existing national accounts data and reports	Descriptive economic analysis
7. Assess the impact of NAP on nutrition in Puerto Rico	1977 Nationwide Food Consumption Survey for Puerto Rico; Panel data from DSS food expenditures survey of 1,000 households in June 1982 and March 1983 (not yet available)	Descriptive analysis and theoretical discussion of expected effects

## Chapter II

### The Process of Converting the Puerto Rico Food Stamp Program to the Nutrition Assistance Program

This chapter describes how the Food Stamp Program (FSP) in Puerto Rico was converted as a result of block grant legislation (Public Law 97-35) to the Nutrition Assistance Program (NAP) designed and directed by the Commonwealth. The objectives of this chapter are to describe the major activities and responsibilities of the Federal government and the Commonwealth of Puerto Rico during this conversion.

Major federal activities included planning for the Puerto Rico block grant, review and approval of the Puerto Rico Plan of Operation, and closing down the Food Stamp Program in Puerto Rico. The description of Federal responsibilities includes a general chronology of significant activities and events. This description is based on documentation from files and reports prepared by the Food and Nutrition Service (FNS) Washington Headquarters and the FNS Mid-Atlantic Regional Office (MARO) including its Caribbean Area Office located in Puerto Rico.

Major Commonwealth activities included planning, designing, and implementing the new Nutrition Assistance Program. This description of the Commonwealth activities also includes a general chronology of significant activities and events. In addition, this chapter discusses the Commonwealth's rationale for the design of the Nutrition Assistance Program including their decision to change from food coupons to cash food assistance. The major sources for the description of Commonwealth activities are reports based on documentary evidence and prepared by the Puerto Rico Department of Social Services (DSS) at the request of FNS. The Food and Nutrition Service defined a case study methodology for DSS to follow which included research questions, data collection methods and data sources. The intent of the case study approach was to provide a comprehensive and systematic investigation of Commonwealth activities. Many, but not all, aspects of the reports prepared by DSS were independently verified by FNS. No major discrepancies were discovered in what was verified. Therefore, the information presented here is believed to be an objective accounting of planning and implementation activities.

## Federal Activities

As the federal agency responsible for the Food Stamp Program, the Food and Nutrition Service, U.S. Department of Agriculture (USDA), was responsible for converting the Food Stamp Program in Puerto Rico to a block grant Program. The conversion process from the federal perspective is described below in terms of planning, review and approval of the NAP Plan of Operation and the FSP closedown.

### Federal Planning for the Puerto Rico Block Grant

In April 1981, FNS began to prepare for the possible passage of block grant legislation for Puerto Rico that was introduced at the request of the Department of Agriculture. Assessment of the Department of Agriculture's nutrition programs in Puerto Rico and a plan which identified actions to be taken by FNS to convert the Food Stamp Program in Puerto Rico to a block grant Program was prepared. The plan called for the establishment of an FNS task force to coordinate the conversion activities. The task force was composed of members of FNS from the Washington Office and its Mid-Atlantic Regional Office which had responsibility for the Puerto Rico Food Stamp Program. The task force was formed prior to the August 13, 1981 enactment of Public Law 97-35 which authorized the Puerto Rico block grant. The task force continued to operate until shortly after the July 1, 1982 implementation of the Nutrition Assistance Program in Puerto Rico. The mission of the task force was to:

- o Define the structure and content of the Federal block grant administration,
- o Develop procedures to facilitate smooth transition from the FSP to the block grant, and,
- o Coordinate a tri-level working relationship between the FNS's Washington Headquarters Office, its Mid-Atlantic Regional Office and the Puerto Rico Department of Social Services which was assigned responsibility for operation of the block grant by the Commonwealth.

After the passage of Public Law 97-35, the task force prepared option papers which addressed alternative policy approaches for the following issue areas:

- o Restrictions on the block grant,
- o Federal requirements for the Plan of Operation for the block grant, and
- o Fiscal and reporting requirements with appropriate deadlines.

During the transition period, numerous policy issues were considered at the Assistant Secretary level within USDA regarding topics related to the block grant. These issues included: the type and amount of technical assistance to be provided to Puerto Rico; the limitations to be placed on administrative costs; definition of amounts to be made available for special projects under the food assistance grant; reporting requirements; and deadlines appropriate for retailer redemption of coupons. In general, policy decisions were made that facilitated maximum Commonwealth discretion regarding the new program. This was consistent with the Administration's position that block grants should allow more flexibility for local governments and contain fewer controls on the part of the Federal government. However, throughout the transition period, procedures were designed, and tight deadlines were applied in areas where FSP fraud or abuse might occur.

#### Approval of the Puerto Rico Plan of Operation

FNS published an interim rule on March 12, 1982 (7 CFR Part 285.1) to implement the Puerto Rico Nutrition Assistance Program. Prior to its publication, FNS had solicited Puerto Rican input on a draft of the rule. In accordance with the legislative intent, the regulations did not stipulate the approach Puerto Rico should take to provide assistance to needy persons under the block grant. The intent was to allow Puerto Rico maximum flexibility to design whatever approach was most workable for them. While providing this flexibility, the legislation and regulations required Puerto Rico to submit a Plan of Operation for the provision of assistance to needy persons. Food assistance funds under the block grant legislation would not be made available until a plan was accepted by the Department. The regulations required that the plan include the following elements:

- o The name of the agency within the Commonwealth responsible for administering the program,
- o An assessment of food and nutrition needs of needy persons,
- o A description of how funds would be distributed to needy persons, and
- o A proposed budget.

Following receipt of the Puerto Rico plan, the Department was required to approve or disapprove the initial plan no later than 30 days from the date that the Commonwealth submitted it to FNS.

On March 24, 1982 Governor Carlos Romero Barcelo of Puerto Rico submitted to the Department a plan for implementing the nutrition assistance grant. The plan covered 15 months of program operation from July 1, 1982 through September 30, 1983. In reviewing the plan, FNS found that it complied with the March 12, 1981 regulations that required:

- o Sufficient detail to permit analysis and review,
- o Assessment of the food and nutritional needs of the needy,
- o Targeting of the program to the most needy persons,
- o Reasonable request of funds,
- o Safeguards to prevent fraud, waste and abuse, and,
- o Consistency with all Federal laws.

In addition to the provision of direct nutrition assistance, the Plan of Operation proposed to spend about four percent of the grant on agricultural stimulus projects to increase food supplies and lower prices. The following four proposals for special projects were submitted by Puerto Rico:

- o An expansion of existing projects for production and processing of garden vegetables, starchy vegetables, pork, eggs, fish and shrimp as well as sterilization of milk.
- o A plan to control pests and disease in farm plants and animals.
- o A comprehensive outreach and education project.
- o A plan to provide employment services to nutrition assistance recipients.

A special task force of Departmental agricultural and nutrition specialists was established by the Secretary to review and make recommendations regarding the technical merit of three special projects (all except the employment services project). The recommendations of the task force were incorporated as conditions for approving these special projects

On April 23, 1982 Secretary Block announced USDA's approval of the Puerto Rico Nutrition Assistance Plan with the exception of the special projects. On June 30, 1982 USDA conditionally approved three of the four special projects. The employment services project was not approved on the grounds that it did not meet the specific criteria for special projects as defined in the Nutrition Assistance Grant regulations.

A chronological summary of the major Federal activities undertaken in the conversion of the Food Stamp Program to the Nutrition Assistance Program is included in Appendix A as Table A-1. The process of closing down the Food Stamp Program is described in more detail below.

#### Closedown of the Food Stamp Program

The major federal activity related to closing down the Food Stamp Program involved closing out all of the coupon issuance related activities and closing out the retailer and wholesaler related activities. Coupon closeout involved three activities: collecting all unissued coupons, reconciling inventories, and disposing of coupons in a secure way. The coupon collection, reconciliation and destruction process was carried out from June 30 to July 8, 1982. Personnel involved in this process included representatives from MARO, the Caribbean Area Office, USDA's Office of Inspector General (OIG) Audit Division and the Puerto Rico Department of Social Services. The Department of Social Services and USDA's OIG Audit division representative were present throughout the closeout operation. The Office of the Inspector General participated in the FNS/DSS closeout training session that was conducted on May 19, 1982, and was provided a briefing on June 29 as a result of a change in the closeout schedule. Both the OIG and DSS each maintained two representatives throughout the entire FNS inventory, and OIG was again represented at the July 9 meeting with the Puerto Rico Police Department's Tactical Operations Division and at the coupon destruction site on July 12. A workplan for the collection and counting of unissued food coupons was developed by DSS while the workplan for destroying the unissued food coupons in Puerto Rico had been developed by MARO. These plans were reviewed by all agencies involved and made final during May 1982.

Coupon Collection. During the Puerto Rico Food Stamp Program, recipients were mailed monthly authorization to participate (ATP) cards. These cards were exchanged for food stamps at 106 Commonwealth staffed issuance offices. The Commonwealth stopped exchanging coupons for ATP cards at noon on June 30, 1982. At that time each site counted their remaining inventory, completed certain accounting documents and forwarded the inventory to a specified point. The coupons in issuance sites within the San Juan metropolitan area were shipped to Wells Fargo's central storage facility in San Juan.

Inventories. From June 30 to July 8, the Caribbean Area Office performed the final count of the ending inventories at Wells Fargo and for each of the local issuance points, which had been transferred to nine area offices: Humacao, Carolina, Bayamon, Arecibo, Aguadilla, Ponce, Guayama, Mayaguez and Caguas.

The final FNS-accepted inventory, as of July 8, 1982, was \$5,162,723, which was broken down as follows:

44 E Cartons of food coupons (valued at \$39,000 each) in bulk storage (Wells Fargo Vaults) .....	\$1,716,000
Loose coupons in bulk storage .....	444,250
Subtotal - food coupons in bulk storage .....	2,160,250
Subtotal - food coupons from local offices .....	3,002,473
Total coupon inventory accepted by FNS .....	5,162,723

Disposition of Coupons. Coupons from each issuance site were placed in tagged and sealed bags after each count was made and certified by all parties. MARO had arranged for the assistance of the Puerto Rico Police Department to assure the secure transfer of coupons from Wells Fargo to the selected destruction site, (a furnace at La Industrial Siderurgica). Prior to igniting the furnace, three persons, including an OIG representative, inspected every bag and seal.

A total of \$3,443,233 in food stamps was destroyed. The breakdown was as follows:

102 Bags of Local Office Ending Inventories .....	\$3,002,473
Less \$3,490 that was turned over to OIG for investigation .....	- 3,490
Subtotal 102 bags .....	2,998,983
Subtotal 6 bags (loose coupons in bulk storage) .....	444,250
Total 108 bags destroyed .....	\$3,443,233

The remaining 44 Type E cartons, worth \$1,716,000, were transferred to the Virgin Islands on July 13, 1982.



Notification of Closedown. As part of the closedown operation of the FSP, efforts were made to assure that authorized retailers and wholesalers as well as bank officials were advised of the termination of the food stamp program. On April 30, 1982 FNS published an interim final regulation which provided final dates for the transaction of ATP cards and coupons. These deadlines were as follows: last date for recipients to redeem ATP's for coupons, June 30, 1982; last date for retailers' to accept coupons from recipients, July 31, 1982; last date for wholesalers and/or banks to accept coupons from retailers or wholesalers, August 27, 1982; last date for Federal Reserve System to accept coupons from banks, September 10, 1982.

As a result of this rule, letters were sent to retailers, wholesalers and banks on May 28, 1982 and June 28, 1982. These letters advised parties of the closeout dates. Additional letters was sent to the eight largest banks in Puerto Rico. This was done on May 25, 1982. Finally, letters including a press release were sent to radio and television broadcasters in Puerto Rico. These were prepared at the end of June and advised participants as well as retailers and wholesalers of the established deadlines.

A procedure was established for processing claims from retailers who had good cause for possessing coupons after the August 27, 1982 cutoff date. Legitimate claims were accepted until November 1, 1982. A total of 25 claims were received by FNS. Of these, four were approved and 21 were denied.

Preventing Fraud and Abuse During the Closedown. USDA activities also concentrated on preventing fraud and abuse in the Food Stamp Program during the final months of the program in Puerto Rico. Meetings were held with representatives from USDA's Office of the Inspector General, Investigations Division; the US Attorney in Puerto Rico and his staff; and representatives from USDA's Office of General Counsel. Emphasis was placed on the need for active prosecution of retail store violators and publicity of these activities. Activities to check on retailer compliance were modified so that reports of noncompliance would be processed quickly, and investigation activity was accelerated. The Northeast and Southeast Regional Offices of FNS were provided information concerning disqualified grocers in Puerto Rico. This was done because there was concern that these grocers might relocate to those regions and therefore avoid being disqualified for the full period.

On December 29, 1981, FNS published regulations which terminated almost all of the wholesalers authorized to accept coupons under the Food Stamp Program. This rule

1982 expire on May 31, 1982. Approximately 600 wholesalers in Puerto Rico were eliminated from participation in the FSP as a result of this regulation. The implementation of this rule just prior to the end of the Food Stamp Program in Puerto Rico was expected to reduce the number of avenues for abuse in the redemption process.

An additional action which was taken to prevent fraud and abuse during the closedown was a modification of the time frame for the payment of civil money penalties by retail food stores that violated program regulations. After February 17, 1982, firms that received a civil money penalty determination were advised that the entire penalty amount had to be paid by June 15, 1982. This modification was made to assure that all payments were made prior to the end of the Food Stamp Program.

Reorganization of Federal Offices. As a result of the termination of the Food Stamp Program in Puerto Rico, MARO reorganized the structure of their field staff located in Puerto Rico. Since there was no longer a need to maintain field offices to monitor

### Planning of the Nutrition Assistance Program

From the beginning of 1981, DSS analyzed a number of budget cutting proposals being discussed in the United States for domestic programs including the Food Stamp Program. Information related to the proposals of the Administration and the U.S. Congress regarding program funding reductions were received from different sources including: the Puerto Rico Governor's Office, the Office of the Resident Commissioner in Washington, and the Puerto Rico Federal Affairs Administration. Among the proposals under consideration in Congress were block grants for the Food Stamp Program. The official position of Puerto Rico towards any changes in the Food Stamp Program was that the island should receive the same treatment as the States of the Union regarding funding amounts as well as the manner of distribution. For this reason both the Governor of Puerto Rico, Honorable Carlos Romero Barcelo, and the Resident Commissioner in Washington, Honorable Baltazar Corrada del Rio, requested that Puerto Rico be kept within the Federal Program and opposed proposals for the block grant program.

The Resident Commissioner, Mr. Corrada del Rio, argued against reductions for Puerto Rico pointing out the difference between the island and the states. Although the Food Stamp Program started in 1964 it was not until 1972 that the U.S. Congress extended it to Puerto Rico, and in 1974 it was finally implemented. He also noted Puerto Rico's unequal treatment compared with the states in other social aid programs such as Supplemental Security Income (SSI) and Aid to Families with Dependent Children (AFDC). Mr. Corrada del Rio argued that the large number of persons qualifying for food stamps is due in part to the fact that Puerto Rico does not participate equally in these social aid programs. He requested support against the reduction of the Food Stamp Program for Puerto Rico stating that this would discriminate against the truly needy.

Policy Analyses Prior to Legislation Passage. By July 1981, DSS had learned through different sources that the Block Grant approval was inevitable. In a letter to Governor Carlos Romero Barcelo dated June 29, 1981 the U.S. Department of Agriculture noted that a block grant would be approved by Congress. This letter also presented the Administration's position on block grants as follows:

"Block grants to replace existing categorical programs are key policy tools that will receive increasing attention in the future restructuring of the Federal State relationship. In essence, block grants make possible decisions about the form and content of services at a level of government much closer to the people that the services are intended to assist".

Prior to the passage of the Puerto Rico Block Grant, DSS considered alternative policies for the administration of a block grant. Without knowing exactly how the block grant would be defined, DSS decided that the new program should focus on Commonwealth needs and that funding should be distributed part in individual benefits and part in programs of economic development and of decreased dependency.

Officials Who Designed the NAP. When the Secretary of DSS learned about the proposal to substitute the Puerto Rico Food Stamp Program with a nutritional assistance block grant, a planning committee was formed to analyze the impact of this change. This planning committee included: Dr. Jenaro Collazo, Secretary of DSS; Ms. Blanca LaFontaine, Assistant Secretary of FSP; and Mr. Manuel Porrata, Consultant to the Secretary of DSS.

Dr. Collazo, as Secretary of DSS, has the decision making authority in the Department. He also has access to the Governor's Staff, to the Governor's Economic and Financial Council; and in the United States to USDA officials and the White House Staff. Ms. Blanca LaFontaine, former Assistant Secretary for the Food Stamp Program and currently for the Nutrition Assistance Program, has eight years of experience in the Food Stamp Program at different levels of administration. Mr. Manuel Porrata has six years of experience as consultant to Secretary Collazo and for the Food Stamp Program. He is an Independent Management Consultant with expertise in systems development, organization and project management.

The decision to have these three persons participating in the preparation of the plan for implementing the block grant was based on the perceived need to keep it confidential, the time pressure involved, and the need to expedite the process. It was felt that decision making would be difficult if many persons were involved. In addition, confidentiality was considered essential in order to work without outside pressures from the different sectors (the public, the press, employees, etc.) that were already expressing opposition to the reduction in Food Stamp Program funding.

Alternate Benefit Delivery Systems Considered. Conceptualization of the program was not difficult since DSS had already wished for greater flexibility in program regulations, and had contemplated the idea of utilizing checks to integrate Economic Assistance and Food Stamp Programs. It was believed that the use of checks was consistent with the government's philosophy and public policy of reducing the individual's dependency and developing self-sufficiency while at the same time promoting the DSS goal of program integration.

The Department of Social Services considered three alternatives for benefits issuance: coupons, a voucher system, and a cash-out system (checks). These alternatives were analyzed by considering their impact on costs, on fraud reduction, on administrative efficiency and the Department's interest in streamlining regulations.

Pro's and con's were considered for each proposed alternative. Internal analysis papers were prepared and discussed. The following lists the advantages and disadvantages of each alternative as discussed by DSS.

Coupons were believed to have the following advantages:

- o Congressmen and certain public opinion groups would be pleased. They visualize a direct relation between coupons and funds designed for food purchases.
- o Participants already understand the coupon system operations.

Coupons were believed to have the following six disadvantages:

- o Involves high administrative and operational costs. Since Puerto Rico coupons would have to be different from federal coupons for reconciliation purposes, expenses would include: coupon printing costs, food store certification and auditing, coupon storage and distribution, security guards, and local issuance offices. Higher costs would mean less funds available for benefit distribution.
- o Requires developing a more strict control system since fraud was a major problem in the Food Stamp Program. Violations to the law occurred at participant, retailer, and employee levels.

- o Fraud cases or coupon's loss would mean the Commonwealth government would lose money.
- o It was difficult to prosecute food retailers who violated the law because participants were not willing to testify.
- o The food stamps created resentment and stigmatized participants by clearly identifying them as program recipients. Resentment against them was harbored by non participants who envisaged food coupons recipients as individuals who did not have to work for their food purchases while they had to work for their food.
- o Long hours waiting in line and crowding in local offices affected the participant's dignity and self-esteem.

Vouchers were thought to have one advantage:

- o The recipient's name appears on the voucher, thus reducing the possibility for transference to non-authorized individuals.

Vouchers were discussed as having disadvantages similar to coupons and certain unique disadvantages as follows:

- o Problems would be similar to those of coupons, e.g., printing costs, storage, distribution, reconciliation, food store certification and auditing.
- o Control for dollar amount in excess of the purchase would not be feasible for the program. Food stores would have to establish their own controls through a credit voucher.
- o High administrative costs for food stores and for banks that received voucher deposits.

The following six advantages regarding checks were identified:

- o Operational costs would be reduced. No need to certify or audit food stores, nor to maintain coupon issuance offices, security guards, or coupon storage or distribution.
- o If high security checks (to be used) were cashed by food stores without asking for proper identification the food store owner would lose the money, not the Commonwealth.

- o Reconciliation process would be simpler.
- o Administrative bureaucracy and regulations would be simplified.
- o Waiting lines and crowding in local offices would be eliminated.
- o Participant stigma at the moment of paying would be eliminated.

Checks were believed to have the following two disadvantages:

- o Check system offers no guarantee that benefits will be used to buy food and not to satisfy other needs.
- o Small retailers would need more cash at hand in order to accept checks.

The Presentation of Alternatives to the Federal Level. On September 13, 1981, a White House Task Force visited the island to discuss the Administration's proposed changes with Puerto Rico government officials. On that same date USDA officials met with the Puerto Rico committee in charge of developing the new Nutrition Assistance Program for relevant discussions. The USDA officials were Mr. William Hoagland, Mr. John Bode, Mr. Ralph Picone, Mr. Jaime Rivera, and Mr. James Hinchman. Dr. Collazo, Mr. Porrata, and Ms. LaFontaine presented officially the preferred check issuance alternative. The USDA officials and DSS verbally consulted the Office of General Counsel of the U.S. Department of Agriculture who gave a favorable opinion indicating that the law allows the use of checks if requirements are met for calculating benefits by considering the incomes and expenses of the applicants. Likewise, the discussions gave USDA the basis to prepare the preliminary regulations that were sent to DSS for comments. A rough draft of these regulations was sent to Puerto Rico in October 1981 and served as support for the preparation of the first draft of the State Plan of Operation.

Preparation of the NAP Plan of Operation. There was significant time pressure to produce a Plan of Operation for the new program due to the fact the block grant was mandated on August 18, 1981, and the deadline for submitting the Plan of Operation was April 1, 1982. All available information was collected regarding impacts of the reduced program funding on program administration, operations, and recipient benefits, and on the general island economy. Personnel from different DSS Divisions were consulted to obtain essential information for the preparation of the Plan. These included: The Office of Information Systems, Finance Division, and the FSP Certification Division. Analysis

of FSP regulations was made in order to either eliminate or modify those that were not useful. In addition, computer simulations to determine the assignment of benefits to various income levels were made taking into consideration the reduced funding level under the block grant.

In developing the Plan of Operation for the new program the Department of Social services had as its major concern a benefit issuance that would support the truly needy more or less at the previous FSP levels, while at the same time promoting a sense of responsibility and self-sufficiency. Therefore, cash benefit issuance was combined with an educational project to teach households to budget their food purchasing money, to make a wise selection of foods, and to protect the nutritional needs of household members. An additional objective of this project was to educate recipients regarding program rules and procedures. The proposal for the educational project was written in coordination with the Department of Consumer Affairs (DACO), the Commonwealth agency believed to have the necessary resources to develop the project. Also taking into consideration the high rate of unemployment a special project was designed to help recipients of the new program find jobs. In addition, to the educational project and jobs project, two special project proposals were designed to cover the agriculture sector. These projects were developed in coordination with the Puerto Rico Department of Agriculture and respond to the interest of the Government in decreasing the island's dependency on imported food. At the same time the projects were intended to promote the economic development of the island, provide new jobs, and reduce the dependency on federal economic assistance. The proposed projects were:

- o A program providing services to farmers for the control of pests and diseases which are harmful to farm plants and animals. The objective of this program was to increase the capability of farmers to control the damage caused by insects, parasites, and diseases in farm plants and animals so that losses in food production could be reduced significantly.
- o A program for the production, processing and marketing of garden vegetables, starchy vegetables, pork meat, shell eggs, fish, and shrimps, and for the establishment of a milk sterilization plant. This program expanded six existing projects.



Approval Within the Commonwealth and Approval by USDA. By November 11, 1981, DSS had already prepared the State Plan's first draft after performing the needed analysis regarding regulations, costs, and computer simulations related to benefits reduction. Once the DSS planning committee agreed on the most favorable alternative for Puerto Rico and the Secretary approved it, their decision had to be cleared through the office of the Governor.

The Governor's special aide and Social Service Agency coordinator, Mr. Jose Alcala, presented the alternative jointly with the DSS Secretary and other members of the DSS planning committee to the Governor's Economic and Financial Council. The effect of the proposed change, especially the cash system of benefit issuance, was considered in discussions with the Council. Effects of the change on the different significant sectors of the economy, such as agriculture, commerce and industry, were discussed. However, due to the lack of sufficient time, economic impact studies and opinion polls of different interest sectors, although desirable, were not conducted. After analysis of the drafted plan and further discussion meetings, the Governor's Economic and Financial Council endorsed the check alternative. The drafted plan was presented at a meeting held by the Office of the Governor and final approval was granted.

On February 23, 1982, Governor Carlos Romero Barcelo announced the change to a check system, during a press conference at a meeting of the National Governor's Association in Washington D.C.. The DSS Planning Committee and FNS officials completed their discussions and negotiations for the draft plan's review, and the Plan of Operation was submitted to USDA on March 24, 1982. The Secretary of the Department of Agriculture, Mr. John Block, approved the Plan on April 23, 1982. However, none of the special projects were approved at that time.

Approval of the NAP Special Projects. Four special projects were submitted for approval as amendments to the Plan of Operation. Proposals were submitted to FNS in April, May and June 1982. Each project proposal was separately reviewed for approval.

An employment services project was proposed to establish a special employment referral system for NAP participants. It was denied on July 30, 1982 since it did not meet the legislative intent to improve or stimulate agriculture, food production or food distribution.

A proposal for a Nutrition Education Project was originally prepared by Puerto Rico's Department of Consumer Affairs (DACO) and submitted by DSS. The proposal was conditionally approved on June 30, 1982. Extensive revisions were necessary since the proposal included provisions for outreach and education related to the conversion from FSP to NAP. After considerable discussion and revision it was decided that the project would be administered by DSS, and a new proposal was submitted. This project emphasizes proper nutrition and budgeting techniques. It was fully approved on January 14, 1983.

Two agriculture project proposals were submitted one for the production, processing and marketing of food, and one for the control of pests and diseases. These two proposals were submitted by the Puerto Rico Department of Agriculture through the Department of Social Services. It was decided by FNS that given the technical nature of these proposals it was preferable to transfer the USDA review, approval and oversight responsibility of the projects to USDA's Office of International Cooperation and Development (OICD). USDA recommended revisions to the proposals and the focus of the projects was changed. The project for the production, processing and marketing of food became a loan bank to encourage these endeavors. The control of pests and diseases project became a tick eradication project. Conditional approval was given to these proposals on June 30, 1982. Subsequent revisions have been handled by OICD. FNS maintains financial review responsibility for these projects.

What opposition to the plan occurred? Since the general public in Puerto Rico had no information regarding the benefits cash-out for the Nutritional Assistance Program until the State plan was approved by the Governor, the initial reaction came from federal and local government officials concerned with the plan.

In his letter of November 17, 1981, to Governor Romero Barcelo, the Resident Commissioner, Corrada del Rio, presented various negative aspects of the contemplated change from coupons to cash-out. His major concern was the appearance of the new cash-out program, within the different power circles in the U.S., as a public welfare program. According to Corrada del Rio this image would affect the political agenda for Puerto Rico in the United States and ultimately cause larger reductions in the block

grant funds. He believed that Puerto Rico could appear to have the largest public welfare program within the United States which would undermine the Commonwealth administration's intent to achieve state-like treatment for other programs such as SSI, AFDC and Medicaid. For this reason Corrada proposed that the new program should guarantee that the money would be used for nutritional assistance by needy households in Puerto Rico. His second concern had to do with Congress' implicit mandate to stimulate Puerto Rico's agriculture. Resident Commissioner Corrada considered it essential that part of the funds be assigned for agricultural projects so as to ensure the defense of the new plan.

Dr. Jenaro Collazo, Secretary of the Puerto Rico Department of Social Services answered Corrada's concerns in a letter dated December 15, 1981. He informed Mr. Corrada that the legality of the check system was discussed months ago with the FNS Administrator and the USDA Office of General Counsel. The legal opinion was that if variables such as income, expenses, unemployment, etc. were used in the NAP eligibility certification process, the Nutrition Assistance Program would comply with the block grant law. In addition, if NAP was combined with a nutritional education program it would also comply with participants' nutritional needs according to the law.

After the announcement of the new cash program, major opposition to the change arose from the banking sector and business circles such as food wholesalers and retailers. Public arguments against the new program were based on the belief that checks would lead to misuse, fraud, and purchasing of non-food products and services. Excerpts from press coverage in Puerto Rico prior to the implementation of NAP are included in Appendix A.

A further indication of public opinion prior to the implementation of NAP can be seen from a poll conducted by Stanford Klapper Associates (El Nuevo Dia, May 13, 1982). The results of this poll of 1,250 households, 37 percent of whom were food stamp recipients, showed that the majority, (47 percent) preferred the continuance of the Food Stamp Program; 24 percent preferred checks; 15 percent declined to comment; and 14 percent were undecided.

A chronological summary of the major Commonwealth activities undertaken in the conversion of the FSP to the NAP is included in Appendix A as Table A-2. The implementation of the Nutrition Assistance Program is described in more detail below.

### Implementation of the Nutrition Assistance Program

The Nutrition Assistance Program was put in operation on schedule during July 1982. Recipients' checks were mailed beginning on the first week of July. This section briefly describes implementation activities beginning in May 1982 after the approval of the Plan of Operation for NAP and continuing until September 1982. While the majority of implementation activities were completed by July, refinements and revisions occurred in certain areas after the program start-up date of July 1.

Following USDA approval of the Plan of Operation for NAP on April 23, 1982, the Commonwealth had approximately two months before the required start-up of the new program. During this time the Department of Social Services (DSS) completed the reorganization of the program's administrative structure, specifications of NAP program regulations and procedures, and development of the computerized check issuance system. Much of the organizational structure and program features of the former Food Stamp Program (FSP) were retained making this part of the program conversion simpler than otherwise would have been the case. However, a substantially different computerized system had to be developed and made operational by the July deadline. Each of these areas is described below in terms of the outcomes of the implementation process.

Additional activities that were carried out during the implementation period are also discussed below. These include: training of program personnel, public education through a mass media campaign, and responding to recipient information requests and complaints. This section also includes a discussion of implementation problems. Finally, a summary of press coverage during the implementation period is included to provide additional perspectives on the program implementation.

NAP Administration and Organizational Structure. The administrative structure of NAP underwent a minor reorganization but remains very similar to what existed under the FSP. The Nutrition Assistance Program is administered by the Puerto Rico Department of Social Services, the agency formerly responsible for the Food Stamp Program. The organizational structure of NAP includes three basic levels of activity, i.e., central, regional and local office operations. At the central level the changes from the FSP include:

- o Assignment of two special aides to the Assistant Secretary under NAP in place of one under the FSP; (these aides have assumed responsibility for evaluation and monitoring functions under NAP.)
- o The name change of two of the central administrative divisions: the Food Stamps Transaction Reviewing Division to the Transactions Division; and the Division of Information and Education to the Division of Communication and Nutrition. (The Transactions Division is expected to be eliminated in June 1983.)

Responsibilities for NAP operations within the Department of Social Services are as follows:

- o The Assistant Secretary for NAP in coordination with the Office of the Secretary of Social Services sets program goals and policy and serves as the link between the federal and state authorities that have responsibilities related to

NAP.

- o The Training Division is responsible for developing the skills of NAP personnel.
- o The Office of Information System has designed and administers the computerized procedures for NAP.
- o The Assistant Secretary for Administration is responsible for budgetary matters, handles personnel transactions, facilitates the purchase of necessary materials and equipment, etc.
- o The Assistant Secretary for Planning and Development provides technical resources for planning and directly supervises program evaluation activities.

The regional structure of NAP is identical to that used for the Food Stamp Program since it corresponds to the one established for all of the Department of Social Services. There are 10 regions: Aguadilla, Arecibo, Bayamon, Caguas, Carolina, Guayama, Humacao, Mayaguez, Ponce, and San Juan.

The total number of NAP local offices is 104, which represents a reduction of two offices

In addition to central, regional, and local offices the administration of NAP requires coordination with the following public agencies for the purposes listed below:

- o Government Development Bank: the reconciliation of NAP benefits account.
- o Department of Consumer Affairs (DACO): the development of the special education program.
- o Department of Labor: the development of the special employment program at municipal level.
- o Department of Agriculture and related agencies: the preparation of agricultural development projects.
- o U.S. Department of Agriculture: ongoing block grant reporting, monitoring and evaluation.

Although the NAP maintained a similar organizational structure to the former FSP, fewer administrative service operations were needed for NAP than were needed for the distribution and exchange of food stamps under the FSP. During the implementation of NAP there was a reduction in the number of available program positions. Of 4,679 available positions only 3,603 were filled during June 1982 and this number was reduced by 770 positions, (21 percent) to 2,833 in September. Vacant positions accounted for 1,092 of all available positions in June 1982 and these were reduced by 58 percent to 631 available vacancies during the September 1982 NAP.

Characteristics of NAP Operational Criteria. The major program change implemented under NAP was the change in form of benefit issuance. NAP benefits are issued by check rather than through the former ATP (Authorization to Participate) card and food coupon system. Otherwise, essential program features parallel the eligibility and benefit determination features of the former FSP. Specific provisions rather than program features were changed to bring the program within the reduced budget provided by the block grant. The specific program regulations and procedures were revised slightly during the implementation period but are basically what was submitted during March 1982 as part of the NAP Plan of Operation.

NAP eligibility is based on an assets limit and gross income (the annual equivalent of \$8,000 for a household of four). A net income determination for elderly and disabled households is used in a similar manner to the earlier FSP. Households with no income are

authorized to receive benefits at 90 percent of the value of the former Thrifty Food Plan for Puerto Rico.<sup>2/</sup> For households with income, 30 percent of net income is subtracted from this reduced Thrifty Food Plan to determine benefit amounts. Net income equals gross income less specified deductions: 20 percent of earned income, a standard deduction of \$40 per household, a maximum excess shelter/dependent care deduction of \$40, and a maximum medical deduction of \$100 for persons disabled or age 60 or more years.

If authorized benefit claims under the provisions described above differ from available funds, all household benefits are adjusted equally upward or downward by the proportion required to bring claims in line with available funds. This is accomplished by application of a monthly formula to a computerized master file. Table II-1 summarizes the basic provisions of NAP as actually operated by the Commonwealth of Puerto Rico from July through September 1982. (For comparison of the major differences in program eligibility and benefit provisions between NAP and the earlier FSP see Table III-1 in Chapter III of this report.)

As described earlier the Nutrition Assistance Program like the Food Stamp Program is financed by appropriations from the U.S. Federal Government. However, in contrast to the FSP, the federal appropriations available to NAP are not open ended, but are capped by the block grant legislation. The \$825 million in 1983, was budgeted under NAP into three major categories. These are listed below with the budget figures under the current Plan of Operation for NAP.

NAP Benefits	\$770,834,648
Administrative Expenses	25,057,620
Special Projects	29,107,700

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<sup>2/</sup> The USDA Thrifty Food Plan specifies the cost of an inexpensive but nutritious diet and is the basis for benefit issuance under the FSP. A separate and lower Thrifty Food Plan was used in Puerto Rico compared with the one used for the Food Stamp Program on the mainland. The basis for the different plans was both the cost of foods in the two locations and the types of foods considered normal to the diets of the two populations. In June 1982, Puerto Rico's Thrifty Food Plan allowed a family of four with no income a monthly FSP benefit of \$221 while the Thrifty Food Plan for the continental U.S. allowed \$ 233 for such a family.

Table II-1

Summary of Provisions of the Puerto Rico  
Nutrition Assistance Program (NAP)\*

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Program Purpose

- To meet nutrition needs.
- NAP is targeted to meet basic nutrition needs of households with annual incomes below \$8,000, and primarily those with annual incomes below \$5,000.

Program Characteristics

- Benefit checks issued by mail.
- If necessary, household benefits will be varied on a monthly basis to meet budget goals. Benefits are reduced by the same proportion for all households.
- Basically the same administrative structure as under the FSP.

Eligibility

- \$667 maximum monthly income for household of four. Maximum income for other household sizes adjusted proportionately using food stamp gross income tables in effect June 1982.
- Elderly and disabled households meet net income standard in similar manner to FSP.
- Residence, citizenship, and alien status requirements the same.
- Resources allowed: \$1,000 per household; \$3,000 per elderly or disabled household and defined as in July 1979 regulations for FSP.
- An authorization form allowing verification of household's financial circumstances must be signed by each adult household member.

Authorized Benefits

- Ten percent reduction from June 1982 Thrifty Food Plan levels.
- No benefit payment under \$10.
- Deductions used to derive net income:
  - o earned income deduction, 20 percent of earned income;
  - o standard deduction, \$40;
  - o excess shelter/dependent care deduction, \$40 maximum;
  - o medical deduction, \$100 maximum for persons disabled or aged 60 or more years.

Actual Benefits

- Vary monthly according to funds available for distribution.

Definition of Households

- With minor exceptions, all persons under the same roof are household members, even if they purchase, prepare, or consume food separately.
- Members temporarily away from residence such as students or workers are not considered separate households.

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\* Some aspects of the Plan of Operations were revised. This summary reflects the most current information regarding NAP provisions as of December 1982.



Table II-1 (Continued)

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Certification

- DSS has 60 days to complete certification. Benefits are issued for the first month following the date of certification.
- An "emergency issuance service" is available for the "very needy".
- Verification required includes:
  - o Residence
  - o Identity
  - o Alien Status
  - o Medical Expenses
  - o Household Expenses
  - o Social Security Number
- Households will be "visited" by DSS caseworkers for verification without notice. Lack of cooperation or "impossibility" of verification would disqualify the household for assistance.
- Only one appointment will be given. If that appointment is missed, applicant must reapply. This is also true for recertification of participating households.

Work Requirement

- No registration for employment required.
- Special employment referral system.

Other Provisions

- Penalties for fraud and abuse are outlined.
- Claims will be pursued up to ten years.
- A quality control system is maintained.
- Financial reporting will be done similarly to FSP.

Special Projects

- Establish a low interest loan fund to develop the production, processing and marketing of certain agricultural products, \$15,000,000.
- Create a crop protection and tick eradication project, \$6,800,000.
- The above two projects are administered by the Puerto Rico Department of Agriculture. Oversight responsibility has been delegated to USDA's Office of International Cooperation and Development.
- Nutrition Education Program, \$4,606,342. To be administered by Puerto Rico's Department of Social Services.

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Source: FNS 1983 Evaluation of the Puerto Rico Nutrition Assistance Program. Analysis of NAP operational procedures.

The Use of Computerization Under NAP. The Office of Information Systems of the Department of Social Services designed and is responsible for all computerized functions under NAP. This office provides computerized information management in order to:

- o Record all households certified as eligible for NAP with detailed characteristics of their eligibility on a master file.
- o Coordinate with the Government Development Bank of Puerto Rico the check reconciliation process.
- o Cross reference such features as social security numbers; retroactive benefits and claims against households; benefits issued in regular and supplementary runs of issuance each month to avoid duplication or overissuance of benefits.

The computerized files receive information recorded by NAP technicians on program coding forms as input. The master file is examined around the 26th or 27th day of every month with the purpose of making the following three actions:

- o Closing all cases that have been inactive for 30 or more days,
- o Inactivating the cases whose period of certification has expired because they are pending recertification, or
- o Authorizing the issuance of benefits to eligible cases.

Once this examination is completed and the masterfile is updated, the data are forwarded to the Assistant Secretary for NAP whose office develops the pro rata benefit adjustment factor. For further information on the pro rata benefit adjustment factor see Chapter III.

The actual benefit checks of the eligible cases are issued by regular and supplementary runs. Each run is handled in 10 batches, based on the last digit of the household's social security number. A supplementary run is done around the 10th day of every month to cover new cases and the recertifications that were not entered in the regular runs. The checks are mailed depending on the date of the batch printing.

The Office of Information Systems prepares a monthly schedule that governs the check issuance procedure. This schedule, which is sent to the local and regional offices of NAP, includes:

- o Cutoff dates that specify the last day that local and regional offices can handle cases effective on the following month;
- o Printing date of the check batch according to their code digits; and
- o Mailing date.

An arrangement was made with the banking industry to ensure that NAP checks are not mailed on the same day as Social Security checks. The banks felt that this would help prevent long lines and excessive workload. The mailing schedule reflects this agreement. The dates of the schedule will be adjusted to the possible volume of work in the banks on specific work days.

Training of Program Personnel. The Training Office of the Department of Social Services worked closely with the Office of the Assistant Secretary for NAP in planning and developing the NAP personnel training activities. By April 1982, a central work team was established; it was directed by a Training Specialist and included three representatives from the Certification Division and two from the Training Department. This team studied NAP regulations and procedures as compiled in the program handbooks, and developed a training plan. Training took place in stages from May to August 1982.

The first stage was the training of instructors. From May 7 to May 12, the central work team trained a total of 61 regional and local supervisors and managers of NAP who would later train local case workers. There were some difficulties in using adequate material in this initial training since the regulations and procedures handbooks were still in the process of being reviewed.

The second stage was the training of case workers. The case workers were divided into two training groups. In each of these groups there were representatives from each of the local offices, so that uninterrupted services could be offered during the training period. the first group of case workers received training in the regional offices between June 7 and June 18, 1982. On returning to the local offices, they began taking care of FSP applications that would be converted to NAP applications and cases on July 1. The second group was trained in a similar manner from June 21 to July 2, 1982. The sum total of persons trained was 1,811, subdivided into 80 sections for discussion and study purposes.

The third stage was the training of officials at the central level. During August 1982, central personnel from units like the Board of Appeals and the personnel of the Internal Audit Section who audit the Program's development, were trained in the central offices of NAP. In this case, the three representatives from the Certification Division that were part of the training team served as instructors.

By September 30, 1982 all the training activities planned for the implementation of the program had been completed. The accumulation of practical working experience with the new program has required the revision and refinement of some of the established procedures. This is being accomplished by memoranda, official communications, and by direct supervision.

NAP Educational Campaign through the Mass Media: During the NAP implementation period - May to September 1982, public information on the Program took three forms:

- o An organized publicity campaign for advertising the close-down of the FSP and the beginning of NAP through the press, radio, and television was developed during May and June by a publicity agency.
- o News and information related to the close-down of FSP and the implementation of NAP was disseminated to the mass media using press releases of the Department of Social Services. These reported important activities of the Secretary of Social Services, the Assistant Secretary for Nutritional Assistance, and other officials of the Department by commenting on the public statements by different federal and state officials, community leaders, and individual citizens; and
- o By personal appearances by the Secretary of Social Services and the Assistant Secretary in the mass media and in different community organizations.

During the week of May 17 to May 21, daily radio spots were broadcast by 35 stations across the island. An average of 44 spots per station were broadcast. The subjects covered were: the issuance date of the last food stamp authorization (June 30 at noon); the last day for the use of food stamps (July 31); the termination of FSP, and the implementation of NAP checks; warnings about checks: will be sent by mail, only recipients can use them, may be cashed in banks or in food selling establishments.

During the period May 5 to May 24, nine advertisements describing the new program were published in four major newspapers: El Nuevo Dia, El Mundo, El Vocero, and the San Juan Star.

During the weeks of June 7 to June 11, and July 15 to July 21; daily radio spots were broadcast covering the island. The same topics were covered as during May and an average of 120 spots per station were broadcast.

On June 14, 15, and 16 articles on NAP were published in the three newspapers with the largest circulation. The subjects covered in these articles were: the purpose of NAP; implementation date; eligibility criteria; payments by checks; the handling of checks including that they will be sent by mail to recipients, can be cashed in food stores or banks. Additional subjects included, acceptable identification to be used when cashing checks, warnings on recertifications, and telephone numbers for more information.

Finally, from June 18 to June 26, 22 television commercials were broadcast. These commercials repeated the same kind of guidelines as had been published in the newspapers and broadcast by radio.

Recipient Requests for Information and Complaints. As was expected, the substitution of FSP by NAP generated a response from the participants in these programs as expressed in requests for information and complaints. The Office of Information and Education of the Assistant Secretary for Nutritional Assistance had established at the central level a telephone "Hot Line" to take care of recipient requests. During working hours three technicians are available to receive calls. Calls made during non-working hours are recorded by electronic means, taken care of later, and then the clients are informed of the circumstances of their cases. The local and regional offices provide the number of the telephone "Hot Line" to clients that visit them.

The Office of Information and Education also received requests and complaints by correspondence and by visits of interested clients. Nevertheless, the "Hot Line" telephone number proved to be the fastest means to take care of requests during the NAP implementation phase: July to September 1982. During that time frame 4,810, or 81.1 percent of the 5,730 requests and complaints were taken care of by the "Hot Line". Table II-2 summarizes data on household inquiries through telephone, mail and visits during the implementation phase.

Table II-2

Distribution of Recipient Requests for Information and Complaints  
 Recieved in the DSS Office of Information and Education  
 During July to September 1982 by Telephone Hotline or by Mail/Visit

Type of Request or Complaint	Received by Telephone "Hot Line"	Received by Mail or Visit	Total
Benefit check not received	3,117 (64.7)	429 (47.1)	3,546 (61.9)
Reason for being determined ineligible	736 (15.3)	25 (2.7)	761 (13.3)
Request telephone number of local office	278 (5.8)	71 (7.8)	349 (6.1)
Desire to participate in NAP	158 (3.3)	122 (13.4)	280 (4.9)
Request information on new regulations	135 (2.8)	31 (3.4)	166 (2.9)
Informal complaints and/or appeal	86 (1.8)	18 (2.0)	104 (1.8)
Reporting possible fraud	34 (0.7)	37 (4.1)	71 (1.2)
Request change	56 (1.2)	31 (3.4)	87 (1.5)
Other <sup>1/</sup>	220 (4.4)	133 (14.7)	353 (6.2)
Unknown	0 (0.0)	13 (1.4)	13 (0.2)
Total	4,820 (100.0)	1,910 (100.0)	5,730 (100.0)

Source: FNS 1983 Evaluation of the Puerto Rico Nutrition Assistance Program.

Note: Numbers in parentheses are column percentages.

<sup>1/</sup>Includes: request for information of actions taken, file/case transfer, applications for retroactive benefits, withdrawal from program.

Implementation Problems. In the light of the magnitude of the administrative and service operations required to send the NAP benefits to eligible families, it is hardly surprising that the implementation of these operations faced difficulties and deficiencies. Among these were the following:

- o The haste of designing the systems of computer programs prevented their being cleared before their operational use. On using them it was necessary to correct some programming errors.
- o Deficiencies in the manufacture of the special mailing envelopes for checks forced extra work shifts to stuff envelopes.
- o Technicians and personnel at the local and regional offices faced some difficulties in filling out correctly the coding forms required by the computerized system. These deficiencies were addressed through retraining and revision of computerized forms.

Press Coverage of NAP Implementation. The Department of Social Services collected information published during June through September 1982 by the four principal newspapers in Puerto Rico on the implementation of NAP. Ninety-four articles were collected, and their content was classified. Results showed that the majority of the articles (56 percent) provided general information about the new program. Five percent of the articles expressed both negative and positive views, while 12 percent expressed predominantly positive views, and 27 percent expressed predominantly negative views regarding NAP. Thus, of all articles that could be classified as critical or supportive of the new program, over twice as many expressed criticism of NAP.

The press coverage that was favorable toward NAP tended to be descriptive accounts of characteristics of the new program and opinions by different leaders including the Secretary for Social Services regarding the new program. In addition, bankers' expectations of major problems under NAP were not realized, and, as a result, they expressed a more receptive attitude toward NAP.

The unfavorable news related to NAP during the implementation period included continued criticism by food retailers. The major issues were the misuse of NAP benefits for non-nutritional purposes, complaints that small retailers do not have sufficient liquid assets to cash checks, and reports of plunging sales among food selling establishments.

Opposition to the dismissal of NAP employees was expressed by the Brotherhood of Social Services Technicians. This organization also criticized deficiencies and disorganization during the implementation of NAP and in the training of personnel. Recently they have also suggested that verification visit procedures used under NAP are facing difficulties because of poor organization by DSS.

Additional criticism of NAP during the implementation period included the following subjects: allegations of "party politics" in the distribution of NAP benefits; the number of stolen or lost NAP checks; and the treatment of Puerto Rico as a "guinea pig" under NAP.





when they presented their ATP card at local FSP issuance offices. Under NAP, however, eligible households receive their specified monthly benefits by mailed check.

The eligibility and benefit determination features for NAP parallel the procedures used under the earlier Puerto Rico FSP. As can be seen in Table III-1 specific provisions rather than program features were changed to keep NAP within the reduced budget provided by the block grant.

Determining Eligibility and Benefits. Table III-1 shows that eligibility for NAP is based on lower limits on income and assets than existed under the FSP. The asset limit for NAP is \$1,000, and the monthly gross income limit is \$667 (the monthly equivalent of an \$8,000 annual income) for a household of four. This is a 27 percent reduction from the gross income eligibility limit used during the last month of FSP operations. From the update limits which would have been effective on July 1, 1982, this represents a 34 percent decline. As under the FSP, different net income and asset limits are used for elderly and/or disabled NAP households.

Table III-1 also shows that for NAP households with income, authorized benefits are reduced by 30 percent of net income, the same benefit reduction rate used under the Food Stamp Program. As under the Food Stamp Program, net income under NAP equals gross income less specified deductions. However, with the exception of the shelter/child care deduction of \$40, these deductions differ under NAP. The earnings deduction was increased (from 18 to 20 percent), the standard deduction was decreased 20 percent (from \$50 to \$40) and the medical deduction for elderly and disabled households was changed so that there was no minimum payment (\$35 under the FSP) before the deduction could be claimed. The medical deduction for these households was instead capped at \$100 per month.

Under the Food Stamp Program households with no net income received food stamps for the full value of the Thrifty Food Plan for that household's size. However, under NAP, Puerto Rico's Thrifty Food Plan has been reduced 10 percent so that households with no income are authorized to receive cash benefits that are valued at 90 percent of the

Table III-1

## Comparison of Provisions for Eligibility and Benefit Determinations in Puerto Rico

Provisions	Food Stamp Program	Nutrition Assistance Program
Asset Limit	\$1,500 (nonelderly) \$3,000 (elderly)	\$1,000 (nonelderly) \$3,000 (elderly)
Gross Income Eligibility Limit (Household of 4)	\$10,985 Annually (\$916 Monthly) <sup>1</sup>	\$8,000 Annually (\$667 Monthly)
Net Income Limit (Household of 4 with Elderly or Disabled)	\$8,460 Annually (\$705 Monthly) <sup>1</sup>	\$6,156 Annually (\$513 Monthly)
Earnings Deduction	18 percent	20 percent
Standard Deduction	\$50	\$40
Shelter/Child Care	\$40 maximum	\$40 maximum
Medical Deduction	Excess above \$35	\$100 maximum
Benefit Reduction Rate	30% of net income	30% of net income
Certification Standard	30 days from date of application	60 days from date of application
Payment Period	From date of application	First month after date of certification
Maximum Benefit (Household of 4)	\$221 <sup>2</sup>	\$199 plus or minus pro rata monthly adjustment
Minimum Benefit Eligible Households	\$10 for 1 and 2 person households	Households eligible for benefits below \$10 receive \$0
Pro Rata Benefit Adjustment	None	Variable (applied monthly as benefit claims differ from available funds)

Source: FNS 1983 Evaluation of the Puerto Rico Nutrition Assistance Program.  
NAP Plan of Operation.

<sup>1</sup> The gross income limit would have been adjusted upwards on July 1, 1982 to \$1,008 a month if the Food Stamp Program had continued in Puerto Rico; the net income limit would have been \$775.

<sup>2</sup> The Thrifty Food Plan would have been adjusted upwards on October 1, 1982 to \$238 per month for a household of four had the Food Stamp Program continued.

former Thrifty Food Plan.<sup>1/</sup> In using this reduced Thrifty Food Plan, the Commonwealth was able to assure that all households of the same size received the same dollar reduction in benefits. This has the progressive effect of reducing benefits of higher income (low benefit) households by a greater proportion than benefits of lower income (high benefit) households. For example, a household of four with no income formerly receiving the maximum allotment of \$221, lost 10 percent or \$22. Its new authorized benefit was \$199 under NAP. A household of four with \$8,000 in gross income claiming only the standard deduction had its authorized benefits of \$33 also reduced by \$22, or 67 percent of its former benefit. Table III-2 details the basis of issuance under the FSP and the corresponding standards applied under NAP.

Calculating the Monthly Pro Rata Benefit Adjustment Factor. Under the FSP, the benefit amount authorized was the amount actually received. However, under NAP, if authorized benefit claims under the provisions described above differ from available monthly funds, all households receive actual benefits that are adjusted upward or downward to bring claims in line with available funds. This is accomplished by applying a monthly pro rata adjustment to the authorized benefits of all certified NAP participants.

The monthly adjustment is calculated by establishing a ratio between the amount of money available for distribution as benefits and the amount of authorized benefits for the caseload. The authorized benefits of all cases in a computerized master file are tabulated each month to establish the amount of money required to provide full benefits for the certified caseload and needs for supplemental issuance funds are estimated. This level is then compared to the budgeted benefit level for the month. In the event that needed benefits are less than the budgeted amount, a pro rata adjustment is applied across all authorized benefits to increase the payments. Similarly, if the authorized benefit level exceeds the budget, a pro rata adjustment is made to reduce benefits.

The amount of money available for distribution as benefits includes:

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<sup>1/</sup> Under the FSP, the maximum coupon allotments would have been adjusted upwards on October 1, 1982 to reflect changes in food prices. Thus, households with no net income are now authorized to receive cash benefits valued at about 84 percent of the Thrifty Food Plan.

Table III-2

## Basis of Issuance FSP and NAP

Household Size	Maximum Gross Monthly Income		Maximum Net Monthly Income		Puerto Rico Thrifty Food Plan <sup>1</sup>	
	<u>FAP</u>	<u>NAP</u>	<u>FSP</u>	<u>NAP</u>	<u>FSP</u>	<u>NAP</u>
1	467	340	360	164	66	59
2	617	449	475	334	122	110
3	766	558	590	430	174	157
4	916	667	705	513	221	199
5	1,065	775	820	597	262	236
6	1,215	885	935	681	315	284
7	1,364	993	1,050	764	348	313
8	1,514	1,102	1,165	848	398	358
9	1,664	1,211	1,280	932	448	403
10	1,814	1,321	1,395	1,016	498	448
Each Additional Member	+150	+109	+115	+84	+50	+45

Source: FNS 1983 Evaluation of the Puerto Rico Nutrition Assistance Program.  
Program management records.

<sup>1</sup> Under the Food Stamp Program a separate and lower Thrifty Food Plan was used in Puerto Rico compared to the one used for the Food Stamp Program on the mainland. The basis for the different plans was both the cost of foods in the two locations and the types of foods considered normal to the diets of the two populations. In June 1982, Puerto Rico's Thrifty Food Plan allowed a family of four with no income a monthly FSP benefit of \$221 while the Thrifty Food Plan for the continental U.S. allowed \$233 for such a family.

- o Funds budgeted for benefits in the NAP plan of operation. These amounts are determined by subtracting administrative and special project costs from the total block grant. During Fiscal Year 1982, the Commonwealth set aside about \$63.1 million for NAP monthly benefits. This was increased to \$64.1 million in Fiscal Year 1983.
- o Additional funds, originally set aside for administrative or special project costs, reallocated as benefits when it is determined they are not needed for their original purpose. This redistribution must occur before the end of a fiscal year.

The amount needed for distribution as benefits includes:

- o Authorized benefits for certified households.
- o Supplemental funds to provide benefits to households certified after data processing cut off dates and to issue replacement checks as needed. The level of these supplemental funds varied from month to month after implementation of NAP but is now set at \$1.5 million per month.

As shown in Table III-3, the first three months of NAP showed substantial variation between the funds available and those needed, with the ratios of these ranging from 98 to 119 percent. Several factors contributed to this variation during the early months of NAP. Since the special projects were not implemented in Fiscal Year 1982, an additional \$8.75 million was distributed as benefits. Additionally, the entire amount of a reserve/emergency fund was distributed since this could not be carried from Fiscal Year 1982 to Fiscal Year 1983. This reserve/emergency fund of \$2 million per year is established to handle necessary disaster assistance and unanticipated funding problems. If it is not spent in the course of the year, it is distributed as benefits. Furthermore, as the program developed, the Commonwealth found that funds were not distributed in the total amount available each month because of rounding in the pro rata adjustment. Some funds were also available from checks returned and voided from prior months.

#### Impacts on Program Participation and Benefits

Expected Changes Under NAP. The reduction in funding under the block grant and the design of NAP by the Commonwealth brought about certain expectations of what would

Table III-3

Comparison of Funds Available for Benefits  
Under NAP

July 1982 - December 1982  
(\$ in millions)

Item	July	August	September	October	November	December
Budgeted Benefits	\$63.1	\$63.1	\$63.1	\$64.1	\$64.1	\$64.1
Excess from Prior Month	-	2.1	0.1	-	-	.1
Unspent from Special Projects	-	0.9	7.9	-	-	-
Returned Checks	-	0.1	0.2	-	-	-
Unused Emergency Reserve	-	-	2.0	-	-	-
<b>Total Available Funds</b>	<b>\$63.1</b>	<b>\$66.1</b>	<b>\$73.3</b>	<b>\$64.1</b>	<b>\$64.1</b>	<b>\$64.2</b>
Authorized Benefits	\$61.7	\$60.6	\$59.9	\$57.0	\$57.5	\$56.9
Estimated Supplemental Needs	\$ 2.7	1.0	1.8	1.5	2.0	1.5
<b>Total Needs</b>	<b>\$64.4</b>	<b>\$61.6</b>	<b>\$61.7</b>	<b>\$58.5</b>	<b>\$59.5</b>	<b>\$58.4</b>
 <b><u>Total Available Funds</u></b> <b>Total Needs</b>	 <b>.98</b>	 <b>1.07</b>	 <b>1.19</b>	 <b>1.10</b>	 <b>1.08</b>	 <b>1.10</b>

Source: FNS 1983 Evaluation of the Puerto Rico Nutrition Assistance Program

happen to participation and benefits under the new program. It was expected that changes in eligibility criteria, the household definition, and increased emphasis on verification of eligibility would cause declines in participation. The changes made to Puerto Rico's Thrifty Food Plan, allowable deductions, funds reserved for disaster relief, and special agricultural stimulus projects were expected to also cause declines in benefits received by participating NAP households.

Changes in Program Participation under NAP. After the first six months of NAP operations, the number of program participants was about 14 percent less than the number of participants in June 1982, the last month of FSP operations (see Table III-4). Average monthly participation in NAP during the first six months was about 10 percent less than what might have been expected under the FSP.<sup>2/</sup> By way of comparison, FSP participation on the mainland climbed about 5 percent over the same period.

Table III-4 also shows that most of the participation decline occurred in the first month of NAP operations: 50 percent of the change in the number of households and 58 percent of the change in the number of participants over this period happened between June and July. This initial drop, in large measure, was due to the mass computerized conversion of households to the tighter eligibility requirements of NAP (specifically the application of reduced gross and net income limits and the elimination of households with authorized benefits less than \$10). Approximately 85 percent of the decline in the number of households between June and July was the direct result of this mass change.

The continuing decline in participation through December 1982 is largely due to a case-by-case application of the stricter program standards and increased verification efforts under NAP. Examination of management reports reveals that the rate at which eligibility workers rejected applications or closed cases doubled between March and September 1982. In March, 1.7 percent of all food stamp cases were rejected or closed; by September the rejection rate had increased to 3.5 percent among NAP cases (see Table III-5). When the reasons for these rejections and closings are examined, it is clear

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<sup>2/</sup> There were, on average, about 1.8 million food stamp participants each month during the year preceding conversion to NAP. Given the stability in the level of FSP participation in Puerto Rico in recent years, this figure is used as the expected number of participants had the FSP continued operations.



Table III-4

Monthly Changes in Participation and Benefits  
 Under Puerto Rico's Nutrition Assistance  
 Program  
 (Numbers in Thousands)

	Participants		Households		Benefits	
	Number	Percent Change from Previous Month	Number	Percent Change from Previous Month	Amount	Percent Change from Previous Month
June	1,841		514		\$75,607	
July	1,690	-8.2%	470	-8.7%	\$61,083	-19.2
August	1,665	-1.5	461	-1.9	\$66,050	+ 8.1
September	1,638	-1.6	450	-2.5	\$72,944	+10.4
October	1,602	-2.2	436	-3.1	\$65,921	- 9.6
November	1,588	-0.9	429	-1.5	\$63,987	- 2.9
December	1,582	-0.4	426	-0.8	\$64,888	+ 1.4
Average Participation					Average Benefits	
Under NAP	1,627		445		\$65,812	

Source: FNS 1983 Evaluation of the Puerto Rico Nutrition Assistance Program.  
 NAP Records of Operations.

Table III-5

Reasons for Rejecting Applications  
and Closing Cases by the Eligibility Worker  
FSP and NAP

Reasons	FSP March 1982	Percent of Actions	NAP September 1982	Percent of Actions
	(Households)		(Households)	
No Cooperation in Determining Eligibility	959	10.8%	1,583	10.2%
Excessive Resources	159	1.8	318	2.0
Excessive Income	1,193	13.5	3,998	25.7
Voluntary Retirement of Application	3,846	43.5	5,246	33.7
Other Reasons	2,692	30.4	4,411	28.4
Total Actions	8,849	100.0	15,556	100.0
Total Caseload	509,058		449,688	
Percent of Total Caseload	1.74%		3.46%	

Source: FNS 1983 Evaluation of the Puerto Rico Nutrition  
Assistance Program. Puerto Rico program management records

that there was a significant increase in the number of negative actions for excessive income. This reflects the stricter program limits on income.

There was also an increase in the number of negative actions based on the refusal of households to cooperate in determining their eligibility and the voluntary withdrawal of applications. Between July and December, 1982, 34,095 households either refused to cooperate or withdrew their applications. This may result from increased verification efforts. In particular, one verification procedure seems to be responsible for this change in participation.

All adult applicants and participants must sign an authorization form that allows eligibility workers to request information on their financial circumstances (See Figure III-1). While similar to procedures under the FSP, the statement is given greater emphasis under NAP and is broader in scope.

There are other reasons for the decline in participation under NAP. For example, the number of new applications dropped from 18,000 per month during the last 9 months of the FSP to approximately 15,000 per month during the first six months of NAP. Another factor which is difficult to quantify, but which appears to be important, is the number of households that fail to come in for scheduled recertifications. Only one appointment is scheduled for recertification under NAP. This compares to two or more appointments which were allowed to be scheduled under FSP rules. Households who miss their recertification appointment are held on an inactive list for 30 days. Such households are held on an inactive list for 30 days. If during that time the household takes no action to obtain recertification, the case is closed and can only be reopened with a new application. This inactive list, therefore, accounts for declines in the caseload to the extent that households fail to seek and complete recertification as scheduled.

Changes in Household Characteristics. It is useful to determine whether the significant reduction in program participation under NAP affected not just the number of participants but also their characteristics and financial circumstances as well. Since a large share of the caseload reductions can be attributed to tighter income eligibility limits and more intensive income verification, we should expect larger declines among relatively high income households. Furthermore, since the level of income is often associated with other household characteristics, we might expect some shifts in the types of households served by the program. Finally, the targetting of program benefits on lower income households coupled with the initial reduction of the maximum allotments

Figure III-1. Department of Social Services Authorization  
Form to Request Information to Verify  
Household Circumstances

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Department of Social Services  
Nutrition Assistance Program

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Social Security Number  
Head of Household

Authorization to Request Information

I, \_\_\_\_\_, Social Security Number \_\_\_\_\_, applicant and/or  
participant in the Nutrition Assistance Program of the Department of Social Services,  
authorize information necessary for determining the eligibility of my household to be  
verified.

In addition, I authorize employers, banks and other institutions of deposit and credit,  
neighbors and other persons to offer information which can be used for the same purpose.

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Date

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Signature

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Address

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Witness to the  
Signature

and subsequent pro rata adjustments should be expected to affect average benefit levels among program participants.

The analysis of impacts on program participation and benefits largely relies on a comparison of the characteristics of the June 1982 FSP caseload with the NAP caseload in July and October 1982. June 1982 was selected as the last month of FSP operations. Two sets of comparisons are made:

- o To July 1982 — the first month of NAP implementation — to capture the effects of the computerized mass change to NAP; and
- o To October 1982 — the midpoint of NAP operations described in this report — to capture any additional effect of ongoing NAP operations.

For the purpose of this analysis, most household information is derived from the monthly computerized master file used to determine authorized benefits for both individual households and for the entire NAP caseload. A similar master file was used for ATP issuance under the FSP. The existence of these files make it possible to make detailed comparisons between the entire caseloads of the two programs.

Summary Characteristics. As Table III-6 shows, NAP participants on average look very similar to FSP participants. In June 1982 under the FSP, the average household contained 3.6 persons. It had an average gross monthly income of \$217, and, after claiming deductions allowed by the FSP, had a net monthly income of \$149. Average household benefits distributed were \$147 per month. After the mass change in July 1982, average household size remained constant at 3.6 persons. Gross monthly income averaged \$214 (a 1% decline) with net monthly income (using new NAP deductions) of \$146 (a 2 percent decline). Average benefits issued for July NAP households were \$130 (a 7 percent decline). By October 1982 NAP households averaged 3.7 persons. Gross monthly income averaged \$217 per month with net monthly income averaging \$149 per month. Benefits distributed in October 1982 averaged \$151 per household. It is interesting to note that under the June 1982 FSP and under the October 1982 NAP, program benefits constituted approximately 40 percent of the total income (gross income plus food assistance benefits) of the average participating household.

Income of Participating Households. The distribution of households by income is very similar under both the FSP and NAP although there is a slight shift towards lower income

Table III-6

Comparison of Household Characteristics  
FSP & NAP

	FSP June 1982	NAP July 1982	NAP October 1982
Average Household Size	3.6 persons	3.6 persons	3.7 persons
Average Gross Monthly Income	\$217	\$214	\$217
Per Household			
Per Person	\$ 60.28	\$ 59.44	\$ 58.65
Average Net Monthly Income			
Per Household	\$149	\$146	\$149
Per Person	\$ 41.39	\$ 40.55	\$ 40.27
Average Monthly Benefit			
Per Household	\$147	\$130	\$151
Average Monthly Benefit			
Per Person	\$ 41.06	\$ 36.14	\$ 41.15

Source: FNS 1983 Evaluation of the Puerto Rico Nutrition Assistance Program.  
Analysis of program master files.

households. Table III-7 presents the distribution of participating households in June, July, and October 1982 in terms of their gross income as a percentage of the official poverty lines.<sup>3/</sup> In June, 7 percent of all food stamp households in Puerto Rico had gross income at or above the poverty line. By October, less than 2 percent of all NAP households had incomes at this level. While reductions in participation can be seen at all levels of income, the reduction in the number of households with relatively high incomes is proportionately greater.

Groups of Prime Interest. In addition to looking at average characteristics, specific types of households within the caseload may be examined. Tables III-8 and III-9 illustrate changes in household characteristics which occurred between the June 1982 FSP and October 1982 NAP for some groups of prime interest. It is important to remember that outside forces such as employment and other household circumstances can cause shifts among the groups and the characteristics examined here, in addition to impacts of program changes. Although the master file presents an accurate picture of those actually served by NAP, only limited inferences may be made as to the causes of changes among these groups.

As can be seen immediately in Table III-8, with the exception of earners, most groups represent approximately the same percentages of the caseload under NAP as they did under the FSP.

- o The number of earners decreased by 63,168, and their share of the NAP caseload dropped nearly 9 percentage points.
- o Social Security recipients also declined substantially (20,597 households), but they maintained nearly the same percentage of the NAP caseload as under the FSP. The decline in the number of disabled (who may also be classed as Social Security recipients) is small in number but represents a large change when measured as a percentage of its own group. In both cases, however, the decline is approximately the same as the overall decline in participation.
- o Households with zero income exhibited a decline of 13,647 households. Most

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<sup>3/</sup> This distribution is confounded by the periodic adjustment to the poverty line which occurs each July 1 in the FSP. The effect of this sudden upwards adjustment is to shift households toward the lower end of the distribution. As income grows over the course of a year, the distribution will shift towards the upper end.

Table III-7

Distribution of Households by  
Gross Income as a Percent of Poverty

(Numbers in Thousands)

Percent of Poverty	FSP		NAP		NAP	
	June 1982		July 1982		October 1982	
	Households	Percent	Households	Percent	Households	Percent
Zero Income	85	16.4	85	18.0	71	15.9
1-25%	155	30.1	167	35.1	165	36.9
26-50%	125	24.3	116	24.5	112	25.2
51-75%	72	13.9	63	13.6	61	13.7
76-100%	48	9.3	32	7.0	30	6.7
100-125%	22	4.2	7	1.6	7	1.4
Over 125%	9	1.8	1	0.2	1	0.2
Total	514	100.0	471	100.0	447	100.0

Source: FNS 1983 Evaluation of the Puerto Rico Nutrition Assistance Program. Based on Program Master Files and the Official Poverty Lines During These Months.

NOTE: Columns may not add to totals because of rounding.



Table III-8

Changes in Participation for  
Selected Types of Households  
FSP and NAP<sup>1</sup>

Types of Households	<u>FSP - June 1982</u>		<u>NAP - October 1982</u>		Percentage Change in Number of Households
	FSP Households	Percent of all Households	NAP Households	Percent of all Households	

Table III-9

Changes in Average Income and  
Benefits for Selected Types of Households  
FSP and NAP<sup>1</sup>

Types of Households	FSP - June 1982			NAP - October 1982				
	FSP Households	Average Gross Income	Average Benefits	NAP Households	Average Gross Income	Percentage Change in Income	Average Authorized Benefits	Percentage Change in Benefits
farmers	184,436	\$413	\$145	121,268	\$409	-0.97%	\$133	-8.3%
social Security recipients	134,116	\$283	\$105	113,519	\$278	-1.8%	\$95	-9.5%
households with no Gross Income	84,575	\$ 0	\$170	70,928	\$ 0	N/A	\$160	-5.9%
single Person households	83,502	\$92	\$52	66,577	\$83	-9.8%	\$46	-11.5%
Total Program	514,402	\$241	\$146	446,885	\$217	-10%	\$136	-6.8%

Source: FNS 1983 Evaluation of the Puerto Rico Nutrition Assistance Program. Analysis of program master files.

Categories are not mutually exclusive. Movement of households among categories is probable as are changes in participation over time.

of this decline occurred during actual NAP operations rather than during the mass change. This may be due to several factors including increased verification of household circumstances, the correction of income underreporting and the change in household definition.

- o Declines in the numbers of students and single person households can clearly be attributed to program criteria. Here the definition of a household as "all persons living under one roof" has shown its impact.

Changes in Program Benefits under NAP. During the first six months of NAP operations, Puerto Rico distributed an average of \$65.8 million in benefits each month (See Table III-4). This is about 15 percent less than what might have been expected under the FSP had Puerto Rico remained in the Program.<sup>4/</sup> Because of the general decline in participation, and particularly the decline among high income (low benefit) households, the average household benefit under NAP (\$148 per month) was actually slightly higher than the average food stamp benefit in June 1982. Nevertheless, this was about 5 percent less than what might have been expected under the FSP after accounting for the scheduled cost-of-living adjustment to the Thrifty Food Plan in October 1982.

It is interesting to note that the initial conversion of the caseload to the lower income eligibility limits and the initial 10 percent reduction of the Thrifty Food Plan removed 38,000 households from the program and saved about \$11.9 million per month. These changes alone would have been sufficient to achieve the reduction from expected FSP costs that Puerto Rico determined was necessary to meet the budgetary limits of the block grant. The continuing decline in participation and the availability of funds from other areas of the block grant (i.e., reallocated administrative and special project funds) meant that the total funds available for distribution as benefits generally exceeded the amount needed for authorized benefits. As shown in Table III-10, the monthly pro rata adjustment made to authorized benefits was positive in five of the first six months of NAP operations, ranging from 2 percent to 19.48 percent. This tended to mitigate the effect of the initial 10 percent reduction of the Thrifty Food Plan.

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<sup>4/</sup> An average of \$74.5 million was distributed under the FSP during the first nine months of Fiscal Year 1982. This would have increased to approximately \$79.8 million per month with the cost-of-living adjustment to the Thrifty Food Plan on October 1, 1982. Thus, the projected average cost of food stamp benefits over this period is about \$77.2 million per month.

Table III-10

NAP Pro Rata Benefit  
Adjustments<sup>1</sup>

July 1982 - December 1982

Month	Pro Rata Adjustment	Actual Change in FSP Thrifty Food Plan as Reflected in NAP Benefits Issued	Average Benefit Issued Per Household
June (FSP)	0	0	147
July (NAP)	-2%	-11.8%	130
August (NAP)	+7%	-3.7%	143
September (NAP)	+19.48%	+7.5%	162
October (NAP)	+9.59%	-1.37%	151
November (NAP)	+7.65%	-3.1%	149
December (NAP)	+9.08%	-1.8%	152
Average Change Under NAP	+8.46%	-2.38%	148

Source: FNS 1983 Evaluation of the Puerto Rico Nutrition Assistance Program.  
Analysis of program records.

<sup>1</sup> As measured against the initial 10 percent reduction in Puerto Rico's  
Thrifty Food Plan.

This can be seen most clearly among households with no net income and receiving the maximum benefit. The effective reduction in the Thrifty Food Plan for these households is also shown in Table III-10. The average net impact of the initial 10 percent reduction in the Thrifty Food Plan and subsequent pro rata adjustments to authorized benefits was equivalent to just over a 2 percent reduction from the June Thrifty Food Plan. (Given the scheduled cost-of-living adjustment under the FSP in October 1982, households experienced a somewhat larger net reduction from the updated allotments). The effective reduction for other households depends on their net income and the size and direction of the pro rata adjustment. The net result is somewhat larger benefits than authorized for all cases in those months with an upwards adjustment.

Table III-11 shows that the distribution of benefits to households at various income levels did not change substantially between June and October 1982, although there was a slight shift towards households with lower income. Approximately three quarters of the benefits were issued to households with gross incomes less than \$200 per month. Similarly, Table III-12 shows that the distribution of benefits to households of different size did not change dramatically. About half of the benefits were issued to households with less than five members.

Although average household benefits were essentially unchanged over this period, it should not be concluded that the benefits of individual households were unchanged. The initial reduction to the Thrifty Food Plan, the elimination of the minimum benefit, and the elimination of the scheduled FSP cost-of-living adjustment mean that NAP household benefits are smaller than would have been expected had the FSP continued. This was counterbalanced to some extent by the elimination of high income (low average benefit) households and by the pro rata adjustments, both of which tended to increase average benefits.

#### Impacts on Administrative Costs

During the FSP in Puerto Rico the costs of the food assistance benefits provided to participating households were borne exclusively by the federal government. However, costs for administering the FSP were shared on a 50-50 basis by the Commonwealth and the federal government. Of these shared costs, the major item was employee salaries and benefits (principally in the area of client certification). Other FSP administrative expenses included space costs for certification and issuance offices, postage for mailing ATP cards, and police and security costs associated with handling ATP's and coupons.

Table III-11

**Effects of Formula Reduction  
in Benefits FSP and NAP <sup>1</sup>**

**By Gross Monthly Income**

Gross Monthly Income	<u>FSP - June 1982</u>			<u>NAP - October 1982</u>			
	Percent of All Households	Average Benefit	Percent of All Benefits	Percent of All Households	Average Benefit as (Percentage Change)		Percent of All Benefits
					Authorized	Pro Rated	
0	16.4	170	19.2	15.9	(-5.9%)	(+1.8%)	18.7
1-99	16.2	153	17.1	18.6	(-7.8%)	(+1.3%)	19.3
100-199	20.8	156	22.3	22.1	(-10.3%)	(-1.9%)	22.9
200-299	13.9	147	14.3	14.0	(-8.8%)	(0.0%)	13.9
300-399	10.3	137	9.8	10.9	(-11.7%)	(-2.9%)	9.7
400+	22.4	117	17.3	18.5	(-.9%)	(+8.5%)	15.7

Source: FNS 1983 Evaluation of the Puerto Rico Nutrition Assistance Program. Analysis of program master files.

<sup>1</sup> Benefits shown in master files do not indicate supplemental issuance for either the FSP or NAP and are slightly lower than program benefits actually issued.

Table III-12

**Effects of Formula Reduction  
in Benefits FSP and NAP <sup>1</sup>**

**By Household Size**

Household Size	<u>FSP - June 1982</u>			<u>NAP - October 1982</u>			
	Percent of All Households	Average Benefit	Percent of All Benefits	Percent of All Households	Average Benefit as (Percentage Change)		Percent of All Benefits
					Authorized	Pro Rated	
1	16.2	52	5.8	14.9	(-11.5X)	(-3.8X)	5.0
2	17.7	89	10.8	17.2	(-11.2X)	(-2.2X)	10.0
3	18.3	129	16.2	17.7	(-7.0X)	(+2.3X)	15.6
4	18.8	161	20.7	19.0	(-8.0X)	(+0.6X)	20.7
5	14.2	189	18.4	14.8	(-9.0X)	(0.01X)	18.7
6	7.4	237	12.1	8.1	(-10.1X)	(-1.6X)	12.6
7	3.6	269	6.7	4.0	(-10.7X)	(-2.3X)	7.1
8+	3.7	368	9.4	4.3	(-11.4X)	(-3.0X)	10.3

Source: FNS 1983 Evaluation of the Puerto Rico Nutrition Assistance Program. Analysis of program master files.

<sup>1</sup> Benefits shown in master files do not indicate supplemental issuance for either the FSP or NAP and are slightly lower than program benefits actually issued.

Additional program costs borne exclusively by the federal government included costs for printing food coupons and shipping them to Puerto Rico.

The block grant legislation continued to allow federal payment for 100 percent of food assistance benefits provided to program participants and federal payment for 50 percent of program administrative expenses. However, the block grant's \$825 million fixed funding level must cover these costs in addition to costs for special projects. Under this new management, decreases in administrative costs free up funds for benefits or special projects while increases in administrative costs reduce funds available for benefits or special projects. In light of this, the Commonwealth stated that one important consideration in changing to the cash form of benefits rather than coupons for the new Nutrition Assistance Program was the predicted lower administrative costs associated with a cash system.

In this section we use data provided by the Department of Social Services from their FSP and NAP accounting records to:

- o compare overall and component administrative costs for the FSP and NAP, and,
- o estimate savings attributable to the cash form of benefits issued under NAP.

However, it is important to note that the availability of detailed data on NAP administrative costs is limited to the first quarter of operations, July - September 1982. Because of the cash basis accounting system used by the Commonwealth, quarterly data do not necessarily include all costs that are incurred during the quarter. Thus observed differences between quarters may be an artifact of accounting practices. The error introduced in this manner may tend to over or under estimate actual costs for the quarter depending on the specific billing practice. The inclusion of some start up costs under NAP also introduces error into comparisons of quarterly cost data for the FSP versus NAP. In general, the available data provide a weak basis for making comparisons across the two programs or estimating savings. It should be noted that the baseline FSP quarterly data were compared with earlier FSP quarterly data. No major discrepancies were noted. Nevertheless, this analysis is presented recognizing inherent limitations.

Overall Administrative Costs. During the first nine months of Fiscal Year 1982 total administrative costs for the FSP (including both the Federal and Commonwealth share)



averaged \$4.60 million per month. During this time the average monthly benefits issued were \$74.5 million. Thus, FSP administrative costs represented 5.8 percent of program costs (benefits plus administrative costs) during this time period.

Under the Plan of Operation for NAP \$4.16 million was originally budgeted for monthly administrative operations with \$63.6 million budgeted for benefits. Comparison of these budgeted figures shows administrative expenses representing 6.2 percent of planned program costs (benefits plus administrative costs) roughly the same relationship as under the FSP. The real decline in administrative expenditures budgeted for NAP compared to the FSP was to be \$440,000 per month or a nine percent decrease in monthly expenditure. If projected over a 12 month period, the decline in administrative expenditures would be \$5.3 million.

Examination of the first three months of actual NAP operations shows average monthly administrative costs of \$3.9 million and average benefits issued of \$66.7 million. Thus, NAP administrative costs represented 5.5 percent of program costs (benefits plus administrative costs) during this time period. The actual decline in administrative expenses from FSP levels was \$700,000 per month, or \$8.4 million if this figure is projected on an annual basis. If compared to the last program quarter of the FSP actual decline would be \$872,657 per month or \$10.5 million if projected to an annual amount.

Component Administrative Costs. Table III-13 presents various components of FSP and NAP administrative costs. In Table III-13 a detailed comparison of the two programs' cost can be made by examining individual expenditure items according to Puerto Rico's accounting categories. In these comparisons, administrative expenses for the last three months of the FSP are used as the baseline compared to the first three months of NAP operation.

It can be seen that the "Other Costs" category shows the largest decline. Here postage (\$273,449), police services (\$127,553) and insurance (\$9,272) constitute the major savings totaling \$410,274 out of the \$410,944 decline in average monthly outlay. If savings from these factors alone were annualized they would amount to \$4.9 million.

"Space costs" for overall operations were also reduced due to the closing of some issuance offices as well as the elimination of a need for bank vaults and lockers. Monthly savings from these elements amounted to \$159,320, which if annualized would show a

Table III-13  
Comparison of Administrative Cost Components

Cost Category	Average Monthly Expenditures		Change	
	FSP <sup>a</sup>	NAP <sup>b</sup>	Amount	Percent
<u>Salaries and Benefits</u>	<u>\$2,852,072</u>	<u>\$2,769,135</u>	- \$82,937	2.9
<u>Consultant and</u>				
<u>Contact Service</u>	<u>118,852</u>	<u>17,433</u>	-101,419	-85.3
Transportation	38,479	5,427		
Travel	71,141	12,006		
Key punch	9,232	0		
<u>Space</u>	<u>523,740</u>	<u>364,420</u>	-159,320	-30.4
Office	495,522	364,270		
Bank	28,218	150		
<u>Program Documents</u>	<u>131,596</u>	<u>90,527</u>	41,069	-31.2
Materials	37,041	6,385		
Printing	94,655	84,142		
<u>Rental, Lease, and</u>				
<u>Purchase</u>	<u>120,135</u>	<u>48,012</u>	72,123	-60.0
Data Processing	111,743	29,621		
Photocopy	9,377	948		
Equipment	985	17,443		
<u>Other Costs</u>	<u>591,595</u>	<u>180,651</u>	-410,944	-69.5
Water	8,527	1,976		
Light	49,700	46,534		
Postage	319,788	46,339		
Telephone	38,676	36,170		
Guard Service	3,940	3,570		
Equipment Repairs	8,915	2,638		
Auto Equipment Rental	48	3,313		
Auto Repair	628	690		
Insurance	9,272	0		
Puerto Rico Police	127,553	0		
Auto Insurance	245	0		
Transportation Office	1,689	0		
Other Equipment Repair	14,356	50		
Consultant	155	37,233		
Other Services	8,103	2,138		
<u>Indirect Costs</u>	<u>425,719</u>	<u>420,974</u>	-4,745	-1.1
<u>Total</u>	<u>\$4,763,709</u>	<u>\$3,891,052</u>	-\$872,657	-18.3

Source: <sup>a</sup>Based on expenses in April, May, and June 1982. <sup>b</sup>Based on expenses in July, August, and September 1982.

savings of approximately \$1.9 million.

The next greatest source of savings was "Consultant and Contract Services" with a decline of \$101,419 from average monthly costs, or \$1.2 million on an annual basis. Here large reductions can be seen in travel and transportation costs associated with the movement of coupons and ATP's to local offices. Key punch costs appear to be zero at this entry; however, some costs for key punch services would be expected in later NAP accounts. On the surface, however, these total savings are not self-explanatory and require further investigation.

"Salaries Fringe Benefits" were also a significant source of savings with a decline of \$82,937 from average monthly costs or \$995,244 on an annual basis. Additional savings occurred from reduced data processing costs under NAP, with an \$82,122 decline in monthly costs or \$985,464 if projected on an annual basis. All together the above major factors total a \$9.98 million potential annual savings or an 18 percent reduction in administrative costs should they continue at these levels.

Savings Attributable to Cash Issuance of Benefits. During Congressional hearings in April 1982 prior to the implementation of NAP, Dr. Jenaro Collazo Collazo, Secretary of Social Services for Puerto Rico, testified that the choice of a cash issuance system using checks rather than a food coupon system would save Puerto Rico approximately \$10 million over the estimated costs of operating a locally run food coupon system. Likewise, USDA estimated a \$4 million savings from the Federal perspective with total net savings to all parties of \$11 million. Based on actual NAP operations, a new estimate of the savings attributable to the cash issuance system has been put at \$12 million per year. This \$12 million estimate incorporates annual projections of the average monthly savings in the first 3 months of NAP which are attributed to the change in the issuance system. Table III-14 provides the details of the current estimate.

As can be seen in Table III-14, the following are sources of major differences between the original and current projections:

- o Savings for insurance and bank vault storage are somewhat less than originally estimated.
- o Savings in data processing are \$985,000 when projected from quarterly records, but the original savings attributed to this element were only

\$60,000. The higher figure has been chosen in current estimates since the only changes in data processing functions which would lead to this type of savings were derived from the changed nature of the issuance system.

- o The cost of printing and materials dropped significantly more than the projected savings from production of ATPs and other forms. However, the \$493,000 in printing savings is outweighed by the approximately \$600,000 cost of printing NAP checks which did not appear in early NAP accounts.
- o Office Space accounted for over four times the original estimated savings from issuance space. This figure includes savings from the merger of two local offices with previously existing ones. Since this merger was essentially made possible by the change in the issuance system, the full \$1.455 million savings is incorporated in current savings projections.
- o No savings from postage had originally been estimated, yet this appears to be a large source of savings at approximately \$2.1 million if early NAP operations are annualized.
- o Savings from salaries, benefits, and support services appeared far lower than estimates during the early months of NAP. However, this is largely due to severance allowances still provided on a weekly basis to those removed from their jobs during the conversion process.

In general, real savings do appear to be accumulating from the choice of cash issuance over a coupon system. These savings when annualized appear to be of the magnitude originally estimated by Puerto Rico and, in fact, may exceed Puerto Rico's estimates.

Again, however, it is important to note that because the data presented here are limited to quarterly data, caution must be used in interpreting the cost savings estimates. FSP administrative costs can vary substantially by quarter as a function of accounting systems. Thus firm estimates of cost savings, the magnitude of any savings and the specific causes of those savings, must await annual data.

Table III-14

Estimated Annual Savings From Distributing  
Cash Instead of Coupons  
(Dollars in Thousands)

	Savings to Puerto Rico	Savings to Federal Gov't.	Net Savings
Coupon production and shipping	\$2,000	\$2,000	\$2,000
Wells Fargo transportation and bulk storage of coupons	397	-	397
Bank vaults for local storage	344	-	344
Police security	1,531	-	1,531
Retail authorization and compliance monitoring	1,000	552	600
Federal Reserve Bank redemption	-	300	300
ATP Data processing	985	-	985
Printing and materials <sup>1/</sup>	-	-	-
Issuance staff salaries and benefits <sup>2/</sup>	925	-	925
Office space	1,455	-	1,455
Postage	3,281	-	3,281
Insurance	111	-	111
Indirect costs	79	-	79
Total	12,108	2,852	12,008

Source: FNS 1983 Evaluation of the Puerto Rico Nutrition Assistance Program.

<sup>1/</sup> Printing and material savings from eliminating ATP cards was offset by approximately the \$600,000 cost of printing NAP checks.

<sup>2/</sup> Savings due to reductions in staff may be underestimated because of initial severance payments.

### Program Security, Fraud, Waste and Abuse

When developing the Nutrition Assistance Program, the Department of Social Services attempted to reduce the opportunity for and incidents of fraud, waste and abuse. To this end, they modified eligibility criteria, maintained and strengthened internal controls, and established some external controls on the program.

In the past, various areas of the Food Stamp Program have been known to be vulnerable to fraud, waste and abuse. This section will discuss the following potential problem areas and describe how DSS has designed the NAP to reduce the vulnerability to these problems.

- o client application for benefits,
- o staff determination of eligibility,
- o delivery of benefits,
- o use and redemption of benefits.

In addition this section discusses activities under the FSP and NAP relating to fraud detection; investigations and prosecutions; and claims and penalties for program abuse.

Client Application for Benefits. In the application process there exists the potential for a food stamp applicant to make false statements or withhold information concerning their potential eligibility. In order to reduce the possibility of these abuses under NAP, several new eligibility requirements were instituted:

Unannounced Home Visits. Each new applicant is subject to an unannounced home visit by an eligibility worker to verify information provided in the Nutrition Assistance Program application except in those regions where the NAP Associate Director determined that because of the excessive caseload a home visit for each new application would not be performed. Criteria for conducting unannounced home visits were established for these regions. They include the following: applicants with little or no income, applicants who are self-employed, households which transfer from one jurisdiction to another, persons that recently arrived from the continental United States, applications with inconsistent or questionable information, cases where complaints were received and households whose checks were returned to the Control Division or the local office for reasons other than death of the only household member and for coding or keypunch errors.

Authorization for Release of Information. All adult household members of each household applying for program benefits, are required to sign an Authorization to Request Information form AN-IB. This form gives broad authorization to DSS to verify the households' financial circumstances. Failure to provide this form within ten days from the date of application results in a denial of the application. (See Figure III-1).

Verification of Social Security Numbers. The Department of Social Services has expanded on the previous requirement of verifying social security numbers for all household members over 18 years of age and for members under 18 with countable income. It is now a requirement for all household members, regardless of age, to provide a social security number. This measure makes it virtually impossible for any applicant to participate in another household since all new applicants and their respective household members' social security numbers are cross-checked against the program master file. This cross check is done across the caseload, so that no client could receive benefits in two different localities for the same month.

Emergency Service. One of the certification procedures which the DSS felt contributed to widespread fraud and abuse under the FSP was the expedited service requirement. As a result, the agency decided to eliminate this Food Stamp certification requirement for the NAP and substitute it with a new procedure which would continue to provide prompt service to those households that demonstrate they had no income in the month of application and/or are victims of an individual disaster.

Those households meeting the above-mentioned criteria have to comply with the same requirements to determine eligibility as any other household. Households have to present all required verifications and in the case of an individual disaster, households also have to provide the DSS a letter from organizations such as the Red Cross, Civil Defense or the

**Fire Department to certify the disaster.**

However, the DSS, in lieu of processing the application within the required sixty (60) days from the date of application as required for regular NAP cases, must determine eligibility within a period not to exceed thirty (30) days from the date the application is submitted.

Alien Status Verification Requirement. Under the FSP the DSS was required to certify, for two months, aliens who alleged legal alien status but did not present verification at the time of certification. Under the present program legal alien status must be verified prior to eligibility determination.

Proration of Income for Disqualified Individuals. The DSS has decided rather than to prorate the income of disqualified household members, to consider their entire income and resources in determining eligibility for the household.

Household Definition. The DSS has changed the definition of "a household" to eliminate the abuse and fraud caused by multiple households sharing a common living arrangement. It now considers all persons, regardless of age and relationship, and living in a common living arrangement, with a few exceptions, to be one household.

As can be seen, the majority of changes made in the certification process are geared to deter recipient fraud by introducing additional verification procedures. The apparent effect of these criteria has been to reduce the number of participating households across the caseload. However, these criteria may have especially affected those households with zero gross income. The Department of Social Services staff believe that these new requirements have been instrumental in keeping fraudulent clients off the program.

Staff Determination of Eligibility. When program staff determine eligibility, fraud can occur by the creation of fictitious cases or by continuing cases that should be terminated. Puerto Rico had controls under the FSP which served to prevent these types of abuses. These were revised and strengthened under NAP.

Program Structure. At the Central Office level, the Certification Division Supervisory Unit has a different structure and function than existed during the FSP. As of November 1982, the staff was reduced from ten to five certification supervisors with one unit supervisor. This reduction was due to the establishment of new staffing levels, which are a direct consequence of the reduced NAP budget and the new central office's supervisory concept. This new concept defines the unit's responsibility as limited to supervisory visits at regional office level. If corrective action at the local office level, proposed by the regional office, is determined ineffective, or if other special situations arise, the Supervisory Unit will review the local office.



This new system is intended to accelerate corrective action since it eliminates a duplication of functions currently being performed by regional office supervisors, and affords time to central office supervisors to devote their efforts at each regional office where they can obtain an overall picture of the performance of any regional or local office at almost any particular point in time.

To maintain program integrity at the local office level, the program continues to require that local office managers review their local office operations on a regular basis and that supervisors conduct periodic second-party reviews of all types of certification actions.

As in the Food Stamp Program, local office managers are required to conduct a comprehensive review of their local office operations on a quarterly basis, and a partial review targeted to problem areas is done on a monthly basis. The mechanism used to assess the operation is the "Management Guide."

Quality Control for Administrative Actions. Although it is no longer governed by nationwide FSP requirements for internal quality control of administrative actions, the Commonwealth has decided to maintain a quality control system under NAP. This system involves a statistically valid sampling of certified and denied or terminated NAP cases. The clients are interviewed and certification documents are reviewed to determine if the actions taken by the local offices were appropriate.

Under the NAP, the organizational structure of quality control systems remains the same as under the FSP. The field staff is headed by one full time coordinator who is located at the DSS Central Office. Five first-line supervisors are headquartered at five different regional offices. From here, they provide technical guidance to field reviewers throughout Puerto Rico's ten regional offices. Quality control sample size remains at 1200 active cases and 800 negative action cases (those denied or terminated) for each six month period.

Once the findings are submitted to the NAP Quality Control Coordinator, he/she analyzes and evaluates the findings. These findings are discussed with the Certification Division, corrective action is proposed and carried out as soon as possible.

Several changes in review methodology were necessitated due to the new certification requirements. In addition, a new computation sheet was developed. The Quality Control

System for NAP began operation in December 1982.

Delivery of Benefits. The vulnerable points for fraud and abuse when providing benefits to recipients are described below for both the FSP and NAP.

Converting ATPs to Coupons and Manual Issuance of ATPs. Under the Food Stamp Program DSS operated over one hundred state-run issuance offices. The potential for fraud at these multiple operation points always existed. In addition, under the FSP, the local office staff was responsible for the preparation of manual ATPs (Authorization to Participate). These ATPs were provided as replacements and as initial ATPs for expedited cases. The preparation and approval of these documents was very time consuming, and the potential for fraud existed as long as these accountable documents remained at the local offices. Under NAP, the Commonwealth eliminated the need for maintaining benefits at local offices. All NAP checks, including replacements, and emergency benefits are issued from the central computer center. Since the NAP totally eliminated the need for local issuance agents this potential for theft and fraud was eliminated.

Procedures for Providing Replacement Checks. There are several vulnerable points when providing benefits to recipients. Recipients might claim that their benefits were never delivered or that they were lost or stolen. Under the FSP it was difficult to deny the household replacement benefits. The Department of Social Services has established a detailed system for providing replacement checks.

Nondeliverable Checks. All nondeliverable checks are returned to the NAP Payment Section, DSS. Checks may be returned for: (1) incorrect address, (2) addressee unknown, (3) addressee has moved, or (4) death of addressee (single member household). The Payments Section logs the checks on the register of returned checks and forwards a copy of the register to the corresponding local office. The following actions are taken when any of the first three reasons for nondelivery apply:

- o The participant visits the local office to notify nonreceipt of the NAP check. The participant is expected to allow five work days for delivery.
- o The local office receptionist verifies against the check register to determine whether or not a check was issued.

If a participant claims that the check was not received yet it is not returned, the Payments Section communicates with the Government Development Bank (GDB), via terminal and requests a stop-payment of the check. This is followed up in writing. If the GDB reports that the check had been paid, no replacement is provided to the client until the check has been reviewed and signatures compared. If the signatures match, but the participant insists that he/she did not cash the check:

- o The participant is informed of the need to provide a sworn statement before a notary public, and is informed that the case will be referred to the DSS Internal Audit Division.
- o The participant provides the local office with the sworn statement.
- o The local office submits the form and a copy of Internal Audit's report to the Payments Section.
- o If Internal Audit's report determines that the participant cashed the check no further action is taken. The local office is notified by the Payments Section.
- o If the Payments Section determines that the signatures on the check and in the case folder do not match, or if Internal Audit's report discloses that the signature on the check is not the participant's signature, the case, the sworn statement, and an Application for Duplicate or Substitute Benefits are referred to the GDB.

Stolen or Lost Checks. This procedure is identical to the one for nondelivered checks, except that the participant is told to return the original check to the local office for voiding if found after a replacement check has been issued. The local office forwards the original to the Payments Section for voiding.

All the checks issued in a month are not always paid or cashed immediately. The reasons for this include: checks returned by the Post Office, cancellations of checks, and the suspension of payments. Table III-15 summarizes these actions under NAP during the July - September 1982 period. As shown in the Table only 8,177 of the more than one million checks issued between July and September 8, 1982 were returned by the Post Office. Overall, only 11,720 checks were actually not cashed for one of these three reasons.

Use and Redemption of Benefits. The vulnerable points for fraud and abuse in the use and redemption of benefits are described below for NAP compared to FSP.

Table III-15

Implementation Phase  
 Actions on Issued Checks  
 July - September 1982

Month	Total <sup>1</sup>	Checks Returned by Mail	Cancellation of Checks	Suspension of Payments		
				Net	Submitted	Revoked
July	2,368	1,832	329	207	225	18
August	4,978	3,311	1,015	652	789	137
September	4,374	3,034	1,416	-76	238	314
Total	11,720	8,177	2,760	783	1,252	469

Source: FNS 1983 Evaluation of the Puerto Rico Nutrition Assistance Program

<sup>1</sup> Includes the number of checks returned, and cancelled, and net suspension of payments.

Exchanging Coupons and Checks for Food. The problems that existed in this area under the FSP were the exchange of coupons for ineligible items, failure on the part of a retailer to provide correct change and the exchange of coupons for cash at a reduced value (trafficking). Since there are no requirements that the NAP checks be spent on food, inappropriate use of this benefit is now moot. In addition, since a recipient can exchange the entire value of the check for cash, there is no reason for a client to exchange the check at a reduced rate and become subject to what was described by Puerto Rico officials as widespread, organized trafficking of food coupons.

Retailers Redemption of Coupons and Checks through Banks. Under the FSP, there was a potential for fraud by retailers who could knowingly pass forged or altered coupons or redeem illegally obtained stamps. This type of fraud was difficult to trace under the FSP. Since the NAP uses a check as the benefit instrument, the merchant or client assumes the loss if the Government Development Bank fails to accept the check. Meanwhile, the GDB is able to keep a more accurate account of the value of benefits in circulation than had been possible with food coupons.

In order to help merchants avoid losses, the Department of Social Services has initiated a no-cost contract with Telecheck of Puerto Rico. Telecheck is a system of communication with a large network of affiliated business establishments that provides subscribers with check and/or credit instrument guarantees by means of a 24-hour a day telephone verification service.

To accomplish this the Department of Social Services provides Telecheck with a magnetic tape containing the latest information for each household which includes:

- |   |   |
|---|---|
| 1. Household social security number         | 7. Authorized representative's social security number |
| 2. Regional, municipality and office number | 8. Spouse's social security number                    |
| 3. Ineligibility code                       | 9. Household name                                     |
| 4. Certification period (no of months)      | 10. Household address                                 |
| 5. Date when certification period starts    |   |
| 6. Household size                           |   |

The file also includes the following check instrument information:

- |                                |                    |
|--------------------------------|--------------------|
| 1. Case file number            | 4. Expiration date |
| 2. Date the check was produced | 5. Check number    |
| 3. Date issued                 | 6. Check amount    |

In exchange for this information, which is used for the sole purpose of authenticating checks for NAP participants, Telecheck guarantees that it will provide a viable mechanism for cashing these checks in a manner which minimizes fraud, forgery, or theft. Upon presentation of a NAP check, the affiliated business establishment calls Telecheck to compare identification information requested by the store owner with the information which DSS has provided Telecheck. Should the information not match, the store owner refuses to cash the check, and Telecheck provides DSS with a written account of the incident for subsequent investigation, and/or stop payment action.

Fraud Detection; Referrals for Investigations and Prosecutions; Claims and Penalties.

The DSS has maintained a fraud detection, investigation, hearings, claims, and penalty system under NAP which is similar to that under the FSP.

Fraud Investigations and Prosecutions. There are many ways in which a case can be identified to be potentially fraudulent. The case may surface as part of a second party review by a local office supervisor during a local office management review, through a review by the regional or central office staff, as well as through other means. If a case has been so identified it is referred to Internal Audit Division or directly to the Administrative Fraud Board. Internal Audit determines whether a case should be referred to the Puerto Rico Department of Justice, for an administrative fraud hearing, or pursued as a non-fraud claim.

The Commonwealth has continued the same priority system that was established under the FSP. The priorities for both investigating and prosecuting fraud are:

- o cases of possible internal fraud
- o cases where a program participant is a DSS employee
- o other participant fraud

This priority system was established by Puerto Rico's Assistant Secretary for Food Stamps in coordination with the Department of Justice. It has been in effect since October 1979.

As of December 1982, there have been very few cases referred under NAP to Internal Audit Division as potential fraud. Table III-16 compares data for fraud referrals, investigations and prosecution for the first six months of the Nutrition Assistance Program and at the end of the Food Stamp Program. The Commonwealth staff attribute the decline in fraud pursuit activity to the tighter eligibility verification controls under the NAP.

Administrative Fraud Hearings. DSS decided to continue with the Administrative Fraud Hearing System in effect under the Food Stamp Program, with some changes, since it was instrumental in controlling fraud.

The administrative fraud hearings are initiated when the Commonwealth possesses documented evidence that a household member has committed fraud. When the fraud amount is less than \$35, a fraud hearing is not held.

The regional office initiates the action, conducts the fraud hearing, reaches a decision and notifies the parties concerned within 90 days from the date the household member was informed of the scheduled hearing date. The household member or his/her representative and the local office may request a postponement of the hearing for a period no longer than 30 days. Postponement may be requested only twice.

When the Administrative Board determines that an individual committed fraud, the person is disqualified from the Program. A first offense will result in a six-month disqualification period. The second offense will result in a one-year disqualification period, and a third offense will result in permanent disqualification.

Table III-17 illustrates how administrative fraud referrals have decreased significantly under NAP as compared to the FSP. Discussion with DSS staff disclosed that the new certification requirements and anti-fraud mechanisms in the NAP design are seen as the primary contributing factors for this reduction.

Table III-16

Fraud Referrals, Investigations  
And Prosecutions  
FSP and NAP

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Item	NAP	FSP
# Cases Referred to Internal Audit Division from All Sources	35 (in process)	165/month
# Cases on Hand	128	3,490
# Investigations completed	0	122 (in 1982)
# Investigations Underway	0	58
# Prosecutions Underway	0	55
# Judgements Achieved	0	18 (in 1982)
Average Cases Referred from DSS for Investigation/Month	2 (Total in Process)	94 (1/82-6/82)
Average Investigated Case Referred for Prosecution	0	11

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Source: FNS 1983 Evaluation of the Puerto Rico Nutrition Assistance  
Program. Analysis of Administrative Records.



Table III-17

Administrative Actions in  
 Regard to Fraud  
 1982 FSP and NAP <sup>1</sup>

Month	Carryover	Referrals	Hearings Conducted				Hearing	Cases
	From Previous Month	Rec'd in Month	Total	Fraud	Non Fraud	No Final Decision	Did Not Apply	Pending End of Month
Food Stamp Program								
January	2349	451	2800	129	178	148	455	2290
February	2242	580	2822	196	235	225	656	2264
March	2262	792	3054	296	298	205	799	2309
April	2475	543	3018	251	286	194	731	2219
May	2216	721	2937	174	268	527	969	1809
June	1809	518	2327	139	107	399	645	1556
July	1554	218	1772	94	71	165	330	1370
August	1281	199	1480	44	35	72	151	1304
September	1303	18	1287	18	18	30	66	1230
Nutritional Assistance Program								
August	1	15	16	0	0	0	0	16
September	16	38	54	0	0	2	2	50
October	53	144	197	17	11	5	33	156
November	156	120	276	43	24	18	85	177
December	177	186	363	74	40	5	119	238

Source: FNS 1983 Evaluation of the Puerto Rico Nutrition Assistance Program

<sup>1</sup> Totals may not be added in some cases where other administrative actions have been applied.

Claims. Under NAP claims action is initiated against households in the following circumstances:

- o The household fails to provide correct or complete information.
- o The household fails to report changes as required.
- o The household alters its official document to receive benefits.
- o The household cashes two checks corresponding to the same period.
- o The local office fails to take prompt action on a reported change.
- o The local office incorrectly computes the household's income or deductions, or assigns benefits incorrectly, or both.
- o The local office determines that the household was ineligible, or eligible for fewer benefits than it received pending a decision from the Administrative Fraud Hearings Board.

Upon detection of a possible overissuance of program benefits, a claim referral is made. The circumstances are reviewed. If it is determined that this is not a potential fraud case, a non-fraud demand letter is sent to the household requesting its presence at the office to establish a payment plan. In the event the household does not respond to the second demand letter and fails to sign a payment plan or refuses to pay the claim, the office will proceed to reduce monthly benefits by 25 percent, or in the case where the household is no longer participating, refer the case to the legal division for collection action. Under the FSP no such reduction of benefits was made nor was a referral for collection action made.

Collection action on a NAP claim will be terminated after being maintained in suspense for ten years and/or at the death of the only household member. With the FSP, claims were held in suspense for three years. Under the FSP collections were pursued for claims of \$35 or greater. Under the new program, no minimum is established for collection action. In addition, payment plans can now be established for a period of up to five years as opposed to three years under the FSP. Minimum payments are \$10 monthly.

The number of claims referrals under the new program has been declined noticeably. It is thought by DSS officials that the NAP certification and verification requirements are the fundamental reasons for this dramatic change. Table III-18 illustrates claims activities under the new program from July - December 1982 and claims activities under the FSP from January - September 1982.

Table III-18

Recipient Claims  
1982 FSP and NAP

Month	Balance at Beginning of Month <sup>1</sup>		Referrals in Month		Cases Processed		Balance at End of Month	
	<u>FSP</u>	<u>NAP</u>	<u>FSP</u>	<u>NAP</u>	<u>FSP</u>	<u>NAP</u>	<u>FSP</u>	<u>NAP</u>
January	9,201	-	2,701		3,261		8,615	
February	8,604		3,268		4,657		7,101	
March	7,101		3,988		5,090		5,980	
April	5,864		3,162		4,539		4,515	
May	4,504		3,124		4,601		3,027	
June	2,985		1,962		3,113		1,834	
July	1,821	0	547	768	40	72	2,320	696
August	2,326	696	596	1,426	61	760	2,860	1,347
September	2,862	1,347	425	1,600	57	1,174	3,229	1,768
October	2,229	1,768	441	1,593	100	1,130	3,570	2,237
November	3,576	2,237	320	1,784	69	1,670	3,836	2,329
December	3,835	2,329	171	1,652	31	1,530	3,981	2,422

Source: FNS 1983 Evaluation of the Puerto Rico Nutrition Assistance Program

<sup>1</sup> Note that administrative adjustments were made where ending and beginning month totals are different.

Table III-Summary

Summary of Food Assistance Program Characteristics in Puerto Rico: Comparisons of the Nutrition Assistance Program (NAP) with the Previous Food Stamp Program (FSP) and with Projections as if Puerto Rico Had Continued in the Food Stamp Program<sup>1</sup>

Program Characteristic	Previous FSP Jan.-June 1982	NAP July-Dec. 1982	Projected As If FSP Continued July-Dec. 1982	Difference Between Previous FSP and NAP	Difference Between Projected FSP and NAP
Average Monthly Participation:					
Individuals	1,823,000	1,628,000	1,800,000	-11%	-10%
Households	510,000	445,000	510,000	-13%	-13%
Average Monthly Value of Benefits Issued (millions \$s)	\$74.8	\$65.8	\$77.2	-12%	-15%
Average Household Monthly Benefit Amount	\$147	\$148	\$151	≈	-2%

Source: FNS 1983 Evaluation of the Puerto Rico Nutrition Assistance Program

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Additional comparisons are used in the report depending upon the question being addressed. Two comparisons of interest follow. Participation during the last month of the FSP compared with the sixth month of NAP, shows a continuing decline. Individual participation was down 17 percent during December 1982 from June 1982. Fiscal Year 1983 budgeted costs under NAP are compared with Fiscal Year 1983 costs projected as if Puerto Rico had continued in the Food Stamp Program (under current assumptions and law). The total value of benefits budgeted for NAP during FY '83 (\$771 million) is 19 percent lower than the projected amount for FY '83 (\$957 million) if Puerto Rico had continued in the FSP.

## Chapter IV

### Recipient Behavior Under the Nutrition Assistance Program

How did recipients respond to the change from the Food Stamp Program (FSP) in Puerto Rico to the Nutrition Assistance Program (NAP)? This chapter addresses the issue of recipient behavior under the Nutrition Assistance Program using data from a survey of NAP recipients and from an analysis of cancelled NAP checks. The major findings of this chapter can be summarized as follows. The majority of NAP recipients cash their checks at food stores. Almost all NAP recipients report that they shop at the same type of store as they did during the FSP. The major reported problem during the Food Stamp Program was spending too much time in line waiting to redeem ATP cards for food coupons while the major reported problem during NAP has been late receipt of NAP checks. The majority of NAP recipients report that they buy about the same amount of food as they did during the FSP.

All intended effects of both the Food Stamp Program and the Nutrition Assistance Program are mediated through recipient behavior. If recipients use food assistance benefits to increase their food purchasing power, their nutritional well-being should improve. This increased spending should increase retail food sales and indirectly contribute to growth in other sectors of the economy. Thus the issue of recipient household food expenditures during the Nutrition Assistance Program is of prominent interest. A related issue regarding the new cash food assistance program is that it may be subject to widespread abuse. Fears have been expressed that NAP recipients will frequently divert their NAP checks from their intended purpose of food assistance to pay for non-food goods and services. Additional concern is aroused because under the Nutrition Assistance Program there are no mechanisms for detecting or preventing such inappropriate uses of the dollars intended as food assistance. These concerns have generated considerable interest in learning where NAP recipients are cashing their benefit checks.

In addition to information regarding expenditures, a broad understanding of recipient behavior patterns is important to a comprehensive evaluation of NAP impacts. Because of the magnitude of the earlier Food Stamp Program and the new cash program (over half

businesses such as banks and food stores.

Despite the importance of data on NAP recipient behavior, constraints on time and

in proportion to the size of the office's NAP recipient caseload . As a second stage of sampling, residential areas were selected at random from each of the sampled NAP offices with probability proportional to the size of the office and the residential areas.

The third and the final stage of sampling was the household. For each residential area, maps were prepared with a random starting point and with arrows indicating the direction in which the interviewer would move for locating the household that would qualify for the survey. The number of households to be interviewed in each region was computed according to the regional proportion of NAP recipients. In order to complete approximately 1,500 interviews, approximately 5,000 households had to be contacted to find members of the target population. The target population for purposes of the survey were all NAP recipients who had also participated in the Food Stamp Program during May 1982. Households which did not meet these criteria were not interviewed. The final sample for analysis contained 1,494 cases and allows estimates which, due to sampling error, can be expected to be within a range of  $\pm 2.6$  percent of the population value at the 95 percent confidence level.

Recipient Interviews. The survey data were collected from recipients by trained interviewers using an interview protocol which had been specially prepared and pretested. All interviews were conducted in Spanish in the recipient's home. The person interviewed was to be the person in the household responsible for purchasing food. The interviewer asked the recipient the amount of his or her November NAP benefit check, the location where this check was cashed, and information comparing his or her experiences under the FSP and NAP. Interviewers also asked about frequency of food shopping, location of food shopping, amount of food and specific food products typically purchased, and preferences regarding the two food assistance programs (FSP and NAP). Additional data from the DSS masterfiles of NAP recipients were linked with each interviewed case for analytic purposes using the social security number provided by the recipient household. These data include household size, gross income, and authorized household NAP benefit amount. Exact matches of interviewed cases and masterfile information were not possible in 162 cases, and the sample size available for analyses including these variables was reduced to 1,332 cases (1,494 - 162).

Characteristics of Sample Households. The sample of 1,494 NAP recipients was selected to represent all NAP recipients in Puerto Rico. Three major characteristics of NAP recipient households, household size, gross monthly income, and reported November 1982

benefit amount were examined in order to determine the representativeness of the sample.

The average household size of the sample is 3.84 persons which is slightly larger but generally comparable to 3.70, the average household size of the entire November NAP caseload. The average gross monthly income of the sample is \$230, with 53 percent of all households having income less than \$200 per month, and with 81 percent of all households having income less than \$400 per month. These figures show that the sample contains somewhat higher income households than were in the entire NAP caseload for October, which had an average gross monthly income of \$217, with 57 percent of all households having income less than \$200 per month, and 82 percent of all households having income less than \$400 per month. The average reported November benefit amount is \$146 for the sample. This is slightly lower, but generally comparable to \$149, the average household benefit amount for the entire NAP caseload during November.

Thus in terms of aggregate statistics on household size, income, and reported benefit amount, the sample appears to be generally representative of all NAP recipients. However, it does on average contain slightly larger families with slightly higher incomes than the NAP population. Both the sample and our knowledge of the entire NAP population converge to show that NAP recipient households average 3.7 persons and are generally very poor. The majority of NAP households have annualized incomes below \$2,400 and approximately 80 percent have annualized incomes below \$4,800.

#### Where NAP Checks Are Cashied

During the first month of the Nutrition Assistance Program, a number of non-food stores were advertising their willingness to accept NAP checks. Press reports indicate that such advertising was discouraged by the Puerto Rico government. At the same time there were discrepant reports on the percentage of NAP checks being cashed at grocery stores. Reported percentages varied from 55-90 percent. These reports have been used as indicators of the appropriate use of NAP benefits for food purchases, or conversely as indicators of the inappropriate use of NAP benefits for non-food purchases.

Since NAP checks, unlike food coupons, can be accepted legally in non-food stores or cashed in banks, there has been interest in knowing exactly where recipients cash their checks. Under the Food Stamp Program, food coupons could be used legally only as payment for eligible food items in retail grocery stores that were authorized and



monitored for compliance with program rules. Violations of FSP rules, such as changing food stamps for cash or accepting food stamps as payment for ineligible food or non-food items, were subject to fines and legal penalties. A major difference under the Nutrition Assistance Program is that there are no penalties associated with using or accepting NAP checks for purposes other than food purchases. NAP checks can be cashed anywhere, accepted as payment for any type of purchases, and readily converted to currency which is indistinguishable from other household income. However, despite these differences from the Food Stamp Program, the Commonwealth has argued that there is very little likelihood that NAP food assistance dollars will be used inappropriately by recipients. They suggest that in Puerto Rico the very low income levels of NAP recipients, along with the basic human need to eat, assure that NAP checks will be used by recipients to purchase food.

It appeared that reliable information on where NAP checks are cashed could be useful as a gross indicator of whether widespread program abuse exists in terms of using NAP checks for making non-food purchases. For this reason, and to determine whether bank activity increased substantially with the introduction of NAP, the Food and Nutrition Service analyzed two samples of cancelled checks. That analysis is presented in this section along with data on where NAP checks are cashed which was collected from recipients during the DSS recipient survey.

Cancelled Check Analysis and Results. The Food and Nutrition Service (FNS) selected one sample of 1,000 checks from all cancelled NAP checks for the month of July 1982, and a second sample of 1,000 checks from the month of October 1982. Each sample was selected systematically following a random start to assure freedom from bias. The selection interval for the July population of 420,500 checks was 420, and the selection interval for the October population of 427,000 checks was 427. The 1,000 check samples allow estimates of percentages with an error of  $\pm 3$  percent at the 95 percent confidence level.

Food and Nutrition Service staff then abstracted data from the checks onto prepared forms and analyzed the endorsements. Analysts attempted to classify all countersignatures on the back of each check as to the type of commercial firm. In many cases classification could be done immediately since the countersignature belonged to a well-known supermarket chain or other type of firm. In other cases the countersignature was an unfamiliar individual's name. In these cases additional efforts were made to

determine whether this name was a known retailer. These efforts included examination of telephone directories and inquiries to former Food Stamp Program field representatives most familiar with retail operations in the geographic area where the check was issued.

Table IV-1 presents the results of the cancelled check analyses for the first month of NAP operations, July 1982, and the fourth month of NAP operations, October 1982. During July 1982, 55.5 percent of checks were cashed in supermarkets and other food stores. An additional 13.2 percent of checks were probably cashed in food stores. These checks had a first countersignature which could not be identified, followed by at least one additional countersignature which could be identified as a food, tobacco, or liquor wholesaler, or a food wholesaler/retailer combination. It is likely, but unverifiable, that these checks were cashed by recipients in small food stores whose owners countersigned the checks and presented them as payment to identifiable wholesale distributors. Based on this assumption, Table IV-1 indicates that during July 1982, 68.7 percent of checks were cashed in food stores, 6.6 percent were cashed in non-food businesses, 6.3 percent were cashed in banks, and 18.4 percent were unknown

Since the first month of NAP operation might have been unrepresentative of recipient check cashing behavior, the Food and Nutrition Service replicated the cancelled check analysis for the month of October 1982. Table IV-1 also shows the results for October. Using the same assumption explained above regarding probable food stores, during October 1982, 73.7 percent of checks were cashed in food stores, 3.4 percent were cashed in non-food businesses, 4.8 percent were cashed in banks, and 17.7 percent were unknown.

In comparing the results for the month of July versus the month of October, the same major pattern emerges. The majority of checks are cashed in food stores; a small percentage of checks are cashed in non-food businesses, a small percentage of checks are cashed in banks, and approximately 18 percent of checks cannot be identified in terms of where they are cashed.

There is a small increase from July to October in the percentage of checks being cashed in the combined categories of food stores and probable food stores (69 - 74 percent). Within the categories of probable food stores and food stores across July and October, there is a large reduction in the number of checks in the "probable food store" category

Table IV-1

Type of Business Where NAP Recipients Cashed  
Food Assistance Checks During July and October 1982

Type of Business	July 1982		October 1982	
	Number of Checks	Percentage of Checks	Number of Checks	Percentage of Checks
<u>Food Stores</u>	<u>555</u>	<u>55.5</u>	<u>616</u>	<u>61.6</u>
Supermarkets	392	39.2	363	36.3
Other food stores	163	16.3	253	25.3
<u>Probable Food Stores<sup>1</sup></u>	<u>132</u>	<u>13.2</u>	<u>21</u>	<u>2.1</u>
<u>Non-Food Businesses</u>	<u>63</u>	<u>6.3</u>	<u>34</u>	<u>3.4</u>
Shoe stores	14	1.4	5	0.5
Hardware stores	8	0.8	3	0.3
Department stores	5	0.5	6	0.6
Pharmacies	3	0.3	3	0.3
Liquor stores	2	0.2	0	0.0
Gas stations	1	0.1	4	0.4
Restaurant	1	0.1	0	0.0
Others	29	2.9	13	1.3
<u>Banks</u>	<u>63</u>	<u>6.3</u>	<u>48</u>	<u>4.8</u>
<u>Check Cashing Services</u>	<u>3</u>	<u>0.3</u>	<u>4</u>	<u>0.4</u>
<u>Unknown<sup>2</sup></u>	<u>184</u>	<u>18.4</u>	<u>177</u>	<u>17.7</u>
Total	1,000	100.0	1,000	100.0

Source: FNS 1983 Evaluation of the Puerto Rico Nutrition Assistance Program.

<sup>1/</sup> The first countersignature was unknown but the second countersignature was a food, tobacco, or liquor wholesaler or a food wholesaler/retailer combination.

<sup>2/</sup> No countersignature could be identified.

and a large increase in the number of checks in the "other food store" category. Because coding was done in a consistent manner for both months, this difference may reflect either differences in how small retailers countersigned the NAP checks or actual differences in where NAP recipients cashed their checks in July versus October. This difference may provide reason to question the validity of the assumption that the "probable food store" category reflects checks cashed in food stores. The major pattern of results remains unchanged by this difference. However, in light of this difference a more conservative estimate of the percentage of checks cashed in food stores in July and October would be 55.5 percent and 71.6 percent respectively. Use of these more conservative estimates would also indicate a substantial increase in checks being cashed in food stores from July to October.

Where NAP Recipients Report Cashing NAP Checks. During the recipient interview, recipients were asked to report where they cashed their November NAP check. Table IV-2 shows that the large majority of recipients (94.3 percent) report taking their checks to food stores. Very few recipients (3.2 percent) report cashing their checks at banks, and only 1.9 percent report cashing their checks in other types of non-food businesses or services. Thus reports from recipients indicate that almost all recipients go to a food store to conduct the initial transaction with their NAP check. That is, they select the same type of store they had been obligated to use with food coupons. Very little check cashing business for banks appears to have been generated under NAP.

Summary of Results. Both the FNS cancelled check data and the DSS recipient survey data indicate that the majority of NAP checks are being cashed in grocery stores. However, the estimates differ considerably. The FNS data indicate that 69 percent of checks in July and 74 percent of checks in October are being cashed in food stores, while recipients' self reported data from the DSS survey indicate that 94 percent of checks in November are being cashed in food stores. These differences may result from a number of factors. First, the data were collected using three different reference months and the results may, in part, be indicating real changes across time. Also, the FNS estimates are imprecise because of the 18 percent unknown category and some question regarding the "probable food store" category. If the 18 percent of unknown checks were all cashed in grocery stores the estimates from both sources would be much more similar.

Table IV-2

Place Where Recipients Reported Cashing  
Their November 1982 NAP Checks

Place	Number of Recipients	Percentage of Recipients
A. <u>Food Store</u>	<u>1,409</u>	<u>94.3</u>
Supermarket	850	56.9
Grocery Store	505	33.8
Other Food Store	54	3.6
B. <u>Banks</u>	<u>48</u>	<u>3.2</u>
C. <u>Non-Food Stores</u>	<u>28</u>	<u>1.9</u>
Shoe Store	7	0.5
Hardware Store	2	0.1
Drugstore	1	0.1
Department Store	1	0.1
Other	17	1.1
D. <u>Miscellaneous</u>	<u>9</u>	<u>0.6</u>
Check Cashing Service	7	0.5
Neighbor/Friend	2	0.1
Total	1,494	100.0

Source: FNS 1983 Evaluation of Puerto Rico Nutrition Assistance Program. Analysis of DSS 1982 Recipient Survey.

Both data sources also indicate that a small but significant portion of checks (3.2 - 6.3 percent) are being cashed in non-food stores; and very few checks are cashed in banks by recipients (3.2 - 4.8 percent).

What can be concluded from these data is that the worst fears regarding widespread inappropriate use of NAP benefits are not substantiated by where recipients cash their NAP checks. Although 3.2 - 6.3 percent of recipients are cashing NAP checks at non-food businesses, the majority of recipients take their NAP checks to food stores.

However, even if the true proportion of NAP checks cashed in food stores versus other types of businesses were known, such data do not give us a very complete picture of NAP recipients' food expenditure behavior. First, the fact that a check is cashed in a food store, does not indicate how much of the face value of the check is spent on food in the store. At least two major supermarket chains in Puerto Rico do have information available from their computerized cash register systems which show that on average recipients spend approximately half of the face value of their NAP checks in the store. However, we do not know whether this is representative of NAP recipients in general. Also, if cash change was returned we do not know whether that cash change was spent for food at a later time. And vice versa, the fact that a check was cashed in a non-food store, does not indicate whether there was cash change returned, and if so, whether it was used for food purchases.

Second, the issue is complicated further by the fact that households with income have the ability to use food stamps or NAP checks to substitute in part for food that they would have purchased even without the assistance. For example, consider a household that formerly spent \$100 per month on food and which now receives an additional \$100 per month in food stamps. This household may now consume \$125 worth of food per month, \$100 in food stamps and \$25 from income. This effectively frees \$75 of income for other expenditures. In this example, the marginal propensity to consume food from coupons is .25 or for each one dollar in benefits, the household's demand for food at the margin was increased by 25 cents. This example illustrates even though the \$100 worth of food coupons were spent exclusively for food, they did not effectively increase the household's food expenditures by that amount. Of course, this same substitution effect can occur in the NAP program.

Therefore, a determination of the effectiveness of NAP versus the Food Stamp Program in terms of their shared objective of increasing recipient's demand for food must be based on differences, if any, in food expenditures. Facts regarding where NAP checks are cashed and how the benefits are not administratively restricted to food purchases, do not provide an adequate basis for commenting on the effectiveness of the NAP program.

#### Reported Changes in Shopping Patterns Under NAP

There has been considerable speculation that NAP recipients would change what had been their typical shopping patterns under the Food Stamp Program. Small retailers in Puerto Rico have actively opposed NAP in part because of the difficulty of maintaining sufficient cash balances to cash checks whose value exceeds the amount purchased. It has also been suggested that the elimination of restrictions on purchasing only food products will lead NAP recipients to prefer larger stores which stock the greatest variety of food and non-food items. Also, because of the magnitude of the food assistance programs in Puerto Rico with over 400,000 participating households, any major shifts in shopping behavior have the potential to require substantial adjustments in the retail food business. In order to provide information on changes made by recipients, interviewers asked recipients about the frequency and location of recipients major food shopping during the Food Stamp Program and during the Nutrition Assistance Program.

Seventy-four percent of NAP recipients report that they do their major food shopping monthly, 14.7 percent report shopping twice a month, and only 11 percent report shopping weekly or more frequently. The same pattern is reported during the Food Stamp Program. In addition, 93 percent of recipients report that they did not change the frequency of their food shopping after the introduction of the Nutrition Assistance Program. Of the seven percent of recipients who did alter the frequency of their food shopping under NAP, half report shopping more frequently and half report shopping less frequently.

This low reported frequency of shopping, i.e., monthly, is different from relatively more frequent shopping in the States. The high proportion of NAP recipients reporting monthly shopping differs substantially from the 1977 data collected in Puerto Rico as part of the Nationwide Food Consumption Survey. That survey reported that 39 percent of FSP participants shopped monthly. It is unclear whether the wording of the question

in the DSS recipient survey, asking for frequency of "major" food shopping contributed to underestimation. Also, we do not know from the question asked in the DSS survey, whether additional smaller food shopping trips are made during a month by NAP recipients.

As mentioned above, there has been widespread discussion about NAP recipients changing what had been their typical shopping location during the Food Stamp Program. In particular, small food retailers feared that they would be at a disadvantage under the new program because they did not have large amounts of cash available to handle large NAP checks. Small retailers thought that this would result in their losing customers who would go instead to larger supermarkets. In order to provide information on where NAP recipients shopped, interviewers asked them the location where they did their food shopping in November 1982. The majority of NAP recipients, 56.8 percent, report shopping at supermarkets, while 32.6 percent report shopping at (smaller) grocery stores. An additional 7.8 percent of recipients report that they do their food shopping at "cash and carry" stores which are advertised as discount, "no frills" stores. The remaining 1.8 percent of recipients report shopping at a traditional market place, or a warehouse-wholesaler and 0.9 percent is unknown. When asked whether their reported shopping location was the same place where they did their food shopping during the food Stamp Program, 92.5 percent of recipients responded that they had not changed their food shopping location. Thus reports from recipients do not indicate that there were widespread changes in shopping locations.

Table IV-3 shows the distribution of the 7.5 percent of recipients who did change their shopping location by the reported reason for the change. The major reason for making a change was to switch to a store with lower prices (53.6 percent). The major change made was to switch from a grocery store to a supermarket, "cash and carry", or warehouse-wholesaler. However, 20.5 percent of recipients who changed shopping locations went from a supermarket to a grocery store, with the majority also unexpectedly citing lower prices as the reason for the change. Although based on very few cases, it is of some interest to note that when changes were made NAP recipients did so to shop more economically.

There is no direct support for the hypothesis that the inability to cash checks due to lack of cash is shifting NAP customers away from smaller grocery stores to larger stores. Table IV-3 shows that 47 respondents, the majority of those reporting change and three



Table IV-3

Distribution of NAP Recipients by  
Reported Reason for Changing Food Shopping Location  
During the NAP Compared to During the FSP

Change in Food Shopping Location	Reason for Change			Total
	Lower Prices	More Accessible	Other	
A. <u>Have Changed Food Shopping Location</u>	60 (53.6)	24 (21.4)	28 (25.0)	<u>112</u> (100.0)
From grocery store to supermarket, "cash and carry", or warehouse- wholesaler	28	4	15	47 (42.0)
From supermarket to grocery store	17	5	1	23 (23.5)
From supermarket to "cash and carry" or warehouse- wholesaler	4	10	11	25 (22.3)
Other	11	5	1	17 (15.2)
B. <u>No Change in Food Shopping Location</u>	----	----	----	<u>1,382</u>
Total				1,494

Source: FNS 1983 Evaluation of the Puerto Rico Nutrition Assistance Program. Analysis of 1982 DSS Recipient Survey.

percent of the sample, reported changing from a smaller grocery store to a larger store. However, the major reported reason for the change is lower prices.

In summary, the very large majority (over 90 percent) of recipients report that they did not make changes in either their food shopping frequency or location. About three quarters of recipients report shopping monthly, and over half shop at supermarkets while about one third shop at smaller grocery stores. Of the small percentage of recipients reporting changes in the location of their food shopping, approximately half indicated that they formerly shopped at a grocery store and now shop at a larger store such as a supermarket. However, the most frequently reported reason for the change is lower

changing from a supermarket to a grocery store, with lower prices again being the most frequent explanation.

#### Recipient Program Experiences

A major change in program features from the FSP to NAP is the change in the form of issuance. The Commonwealth has suggested that the administrative ease of the new check program will benefit the recipient and produce a more efficient, and safer program

Table IV-4

Frequency of Inconvenience or Problems Encountered By Recipients  
During the NAP and During the FSP

Inconvenience or Problem	Number of Recipients Reporting Occurrence During NAP		Number of Recipients Reporting Occurrence During FSP	
	One or More Times	Never	One or More Times	Never
Check/ATP card was late	813 (54.4)	681 (45.6)	330 (22.1)	1,164 (77.9)
Check/ATP card lost in the mail	20 (1.3)	1,474 (98.6)	21 (1.4)	1,473 (98.6)
Check/ATP card was stolen	4 (0.3)	1,490 (99.7)	8 (0.5)	1,486 (99.5)
Check/ATP card had an error	41 (2.7)	1,453 (97.3)	54 (3.6)	1,440 (96.4)
Spent too much time in local office applying for assistance	224 (15.0)	1,270 (85.0)	572 (38.3)	922 (61.7)
Spent too much time in line to get food coupons	NA <sup>1</sup>	NA	1,317 (88.2)	177 (11.8)
Was ashamed to pay with food coupons	NA	NA	73 (4.9)	1,421 (95.1)
Store did not have enough money to cash check	32 (2.1)	1,462 (97.9)	NA	NA
Received credit for unused balance of check	3 (0.2)	1,491 (99.8)	NA	NA

Source: FNS 1983 Evaluation of the Puerto Rico Nutrition Assistance Program. Analysis of DSS 1982 Recipient Survey.

<sup>1</sup> NA = not applicable

Note: Numbers in parentheses are row percentages of the 1494 respondents calculated separately for the half row under the NAP and the half row under the FSP.

time waiting in line to get food coupons. During the Food Stamp Program in Puerto Rico recipients received their ATP cards in the mail and were required to redeem the ATP cards at local issuance offices monthly for their allotment of food coupons.

The next most frequent problem reported by recipients under both programs but more frequently under NAP, was that their check was late (54 percent) or their ATP card was late (22 percent). A final problem that was encountered by recipients with some frequency under both programs but more frequently under the Food stamp Program, was spending too much time in the local office applying for assistance. This problem was reported by 38 percent of recipients during the Food Stamp Program and 15 percent of recipients during the Nutrition Assistance Program.

Thus at least in terms of the pre-listed problem areas, the major complaint recipients had with the FSP was the time required to wait in line to redeem ATP card for coupons and at the local FSP offices. Mail issuance of checks has eliminated the waiting in line to redeem ATP cards for coupons and appears to be an important determinant of recipients' preference for the check program (see below). Over half of all NAP recipients reported some difficulty with late checks. This is not surprising given that the program had been implemented only a few months before the survey and had experienced minor start-up problems. Very few recipients report that there was any embarrassment or stigma associated with using food coupons. Very few recipients report difficulty with cashing their checks. In general, the data seem most notable in terms of the infrequency of reported problems under both programs.

#### Recipient Preferences

Recipients were asked whether they preferred to receive their food assistance benefits as checks or as food coupons. Table IV-5 shows their preference responses. The greatest number, 49 percent, said they had no preference. Checks were preferred by 40.6 percent of recipients, and food coupons were preferred by only 10.5 percent of recipients. Table IV-5 also shows the reported reasons for NAP recipients' preference for food coupon or checks ordered from the most to least frequent reason. The most frequently reported reasons for preferring checks appeared to be based on convenience. Of recipients preferring checks, 93.1 percent reported that this was because they didn't have to wait in line to receive the check. As mentioned above, since NAP checks are sent in the mail,

Table IV-5

Reasons for NAP Recipients' Preference for Food  
Coupons or Checks Ordered From Most to Least Frequent

Reason for Preference	Number of Recipients	Percentage of Recipients
<u>NAP Checks Are Preferred</u>	<u>606</u>	<u>40.6</u>
Don't have to wait in line to receive check	564	93.1
Easier to pay with check	359	59.2
Checks are safer	306	50.5
Can make better purchases with money	272	44.9
More places to buy with checks	268	44.2
Can use money for emergencies	254	41.9
Can budget food expenses better	248	40.9
Can buy household goods with check	248	40.9
Can use money for other necessities	200	33.0
<u>Food Coupons Are Preferred</u>	<u>157</u>	<u>10.5</u>
Coupons are safer	110	70.1
Could count on a fixed amount	107	68.2
Can budget food expenses better	105	66.9
Can buy all food products	99	63.1
Easier to pay with coupons	83	52.9
Less identification needed with coupons	82	52.2
<u>No Preference</u>	<u>731</u>	<u>49.0</u>
Total	1,494	

Source: FNS 1983 Evaluation of the Puerto Rico Nutrition Assistance Program. Analysis of DSS 1982 Recipient Survey.

Note: Respondents gave multiple reasons for preference so totals exceed 100 percent.

this avoids the two step issuance process used under the Food Stamp Program of mail issued ATP cards followed by in-person redemption of ATP cards for coupons at local issuance offices. Another frequent reason reported for preferring checks was that it was easier to pay with checks (59.2 percent).

Although convenience-based reasons are reported most frequently to explain a preference for checks, a considerable number of recipients report that their preference is based on the personal discretion in spending that is possible with checks. For example, Table IV-5 indicates that 41.9 percent of recipients said they preferred checks because they could use the money for emergencies; 40.9 percent because they could buy household goods; and 33 percent because they could use the money for other necessities.

Among the 10.5 percent of recipients preferring food coupons, there was less variability in the reasons reported for their preferences. Between 63 and 70 percent of recipients preferring coupons reported that their preference was based on the safety of coupons, the ability to count on a fixed amount of coupons, the ability to budget food expenses better and the ability to buy all food products. Fewer recipients who preferred coupons reported that this was based on convenience. For example, Table IV-5 indicates that 52 - 53 percent of recipients preferring coupons report their preference is based on the ease of paying with coupons, or the need for less identification.

The relative frequency with which respondents endorsed each reason for preferring coupons or checks can be used validly to rank order the reasons. However, the absolute frequency of endorsement of each reason may not be a valid indicator of the prevalence of the reason in the population. Recipients were read a list of reasons which had been based on the results of the pretest of the questionnaire. They were asked which reasons applied in their case. There appears to be a general acquiescence bias with large numbers of respondents "agreeing" that each reason listed applied to them. This bias is most noticeable among those who prefer coupons.

#### Reported Changes in Food Purchasing

There are presently no data available to compare expenditures of FSP recipients with NAP recipients. The technically acceptable methodology for making this comparison requires baseline data collected during the FSP and follow-up data collected during NAP. In addition, the precise measurement of food expenditures usually requires a detailed recall of purchases or consumption of specific food products including quantities

and prices. However, because of the interest in changes in food purchasing under NAP compared to the FSP, the NAP recipient interview including two global questions asking recipients to report purchasing changes, if any.

As a gross indicator of purchasing changes, recipients were asked whether they were purchasing more, less, or about the same amount of food now under the Nutrition Assistance Program as they did during the Food Stamp Program. The majority of recipients (65.5 percent) report that they are purchasing about the same amount of food, while about one quarter of all recipients (26.6 percent) report purchasing less food, and eight percent report purchasing more food.

For those recipients reporting an increase or decrease in amount of food purchased, no information is available to indicate the magnitude of the differences. In addition, no data were collected from recipients to explain the reason for changes in the amount of food purchased. Possible explanations for decreases in food purchases include the fact that for certain months during NAP recipients received slightly lower benefits than they did under the FSP. Also, the change from stamps to cash may lead some recipients to buy less food in order to purchase other non-food goods and services. In addition, conditions occurring at the same time as the program change but completely unrelated to it, may produce differences in recipients food purchasing patterns, e.g., a reduction in the number of meals eaten at home.

In order to attempt to get some indication of purchasing changes in specific products during NAP, interviewers read NAP recipients a list of 22 products. For each product the recipient was asked if they typically purchased it, and if so, whether their purchase amounts were more, less, or about the same now during NAP as they were during the FSP. Table IV-6 shows reported purchasing changes for three categories of products, market basket items, expensive food items, and non-food items.

If one looks at reported purchasing of market basket items, it can be seen that the majority of recipients who typically purchase these products (from 78-66 percent) report buying about the same amounts during NAP as they had during the FSP. When one looks at the number of recipients reporting purchasing changes of market basket items, it can be seen that the items showing both the smallest reported decreases (8-14 percent) and largest increases (9-17 percent) are milk, poultry, and rice; items that are generally considered diet staples. While there is variability among the other market basket items

Table IV-6

Distribution of NAP Recipients Reporting Changes in  
Purchase Amounts of Specific Products During the  
NAP Compared to During the FSP

Product	Number of Recipients Reporting Changes in Purchasing Based on Those Who Usually Buy the Product				No. of Recipients Reporting Never Buying the Product
	More	Less	About the Same	Total	
<u>Market Basket Items</u>					
Rice	134 (9.0)	206 (13.8)	1,152 (77.2)	1,492 (100.0)	2 (0.1)
Grains	96 (6.5)	225 (15.2)	1,163 (78.4)	1,484 (100.0)	10 (0.7)
Cereals	116 (8.7)	215 (16.2)	995 (75.0)	1,326 (100.0)	168 (11.2)
Milk	256 (17.4)	124 (8.4)	1,093 (74.2)	1,473 (100.0)	21 (1.4)
Poultry	162 (11.0)	158 (10.8)	1,149 (78.2)	1,469 (100.0)	25 (1.7)
Beef	105 (7.4)	285 (20.1)	1,030 (72.5)	1,420 (100.0)	74 (5.0)
Pork	62 (5.4)	332 (28.7)	763 (65.9)	1,157 (100.0)	337 (22.6)
Fish and Codfish	90 (6.6)	252 (18.4)	1,025 (75.0)	1,367 (100.0)	127 (8.5)
Canned Meats	63 (5.3)	243 (20.5)	877 (74.1)	1,183 (100.0)	311 (20.8)
Starchy Vegetables	84 (6.4)	329 (25.2)	895 (68.4)	1,308 (100.0)	186 (12.4)
Green Vegetables	99 (6.9)	292 (20.3)	1,048 (72.8)	1,439 (100.0)	55 (3.7)
Fruits	101 (7.5)	350 (26.0)	895 (66.5)	1,346 (100.0)	148 (9.9)



Table IV-6 (Continued)

Product	Number of Recipients Reporting Changes in Purchasing Based on Those Who Usually Buy the Product			Total	No. of Recipients Reporting Never Buying the Product
	More	Less	About the Same		
Juices	138 (9.7)	315 (22.2)	969 (68.1)	1,422 (100.0)	72 (4.8)
Cakes, custards puddings	46 (4.0)	269 (23.6)	826 (72.4)	1,141 (100.0)	353 (23.6)
<u>Expensive Food Items</u>					
T-bone, fillet, and beef skirt	2 (0.7)	115 (39.0)	178 (60.3)	295 (100.0)	1199 (80.3)
Lobster, shrimp, crabs	7 (2.3)	134 (44.5)	160 (53.2)	301 (100.0)	1,193 (79.9)
Prepared foods	10 (4.5)	72 (32.1)	142 (63.4)	224 (100.0)	1,270 (85.0)
<u>Non-food Items</u>					
Rum, beer, wine	2 (4.3)	4 (8.5)	41 (87.2)	47 (100.0)	1,447 (96.9)
Pet food	7 (6.1)	19 (16.7)	88 (77.2)	114 (100.0)	1,380 (92.4)
Medicines	97 (17.0)	92 (16.0)	383 (67.0)	572 (100.0)	922 (61.7)
House Cleaning	96 (9.5)	124 (12.3)	788 (78.2)	1,008 (100.0)	486 (32.5)
Toiletries	77 (8.6)	110 (12.2)	712 (79.2)	899 (100.0)	595 (39.8)

Source: FNS 1983 Evaluation of the Puerto Rico Nutrition Assistance Program. Analysis of DSS 1982 Recipient Survey.

Note: Numbers in parentheses are row percentages. Percentages are calculated separately for the subsample of persons who typically purchase the product. However, the percentage shown for the number of recipients reporting never purchasing the product is that number as a percentage of 1,494, the total sample size.

in terms of the percentage of recipients reporting decreases in amount purchased, none of the reported decreases, with the exception of pork (28.7 percent), fruits (26.0 percent) and starchy vegetables (25.1), are as large as the percentage of recipients reporting that they are purchasing less food (26.6 percent) when asked a global question (see Table IV-5). Such differences are difficult to interpret but probably result from the imprecise nature of the measures and suggest that some caution should be used in interpreting these data on changes in food purchases as anything other than a gross indicator.

Table IV-6 also shows reported changes in amounts of expensive food items being purchased. The large majority of recipients report that they never purchased expensive meats, seafood, or prepared foods (80-85 percent). Of the small number of recipients who did typically purchase such items, the majority report purchasing the same amount (53-63 percent) but large numbers report purchasing less (32-45 percent). Small numbers of recipients report purchasing more of these expensive items (0.6-5 percent).

Table IV-6 also shows reported changes in purchases of non-food items including alcoholic beverages, pet food, toiletries, house cleaning products, and medicines, all of which were ineligible items under the FSP. The data indicate that 97 percent of recipients report that they never bought rum, beer, or wine. Because these results are unlikely and because food stamps could not be used to purchase alcoholic beverages, it appears plausible that this question was misinterpreted. Other non-food items for which recipients report purchasing changes were pet foods, house cleaning products, medicines and toiletries. The large majority of recipients (92.4 percent) report never purchasing pet food, 61.7 percent of recipients report never purchasing medicines and 40-33 percent of recipients report never purchasing house cleaning products or toiletries. Of recipients who report purchasing these products the majority report buying the same amounts. For all of the non-food items, except for medicines, from 9-17 percent of recipients who report buying them, say they buy less; and a smaller number of recipients (4-10 percent) say they buy more. However, approximately as many recipients report buying more medicines as report buying less (16-17 percent).

#### Summary of Recipient Behavior

Data from two sources, cancelled checks and recipient self-reports, indicate that the large majority of recipients make their initial transaction with their NAP checks at a food store. Less than five percent of recipients cash their checks in banks or in non-food stores.

Survey results show that the large majority of recipients have not changed their food shopping frequency or location. Three quarters of recipients report that they do their major food shopping monthly, with about half of all recipients shopping at supermarkets and about one third shopping at smaller grocery stores.

Data collected regarding problems or inconveniences during the Food Stamp Program and during NAP show that the major reported problem was spending too much time waiting in line to get food coupons. The second most frequently reported problem was late receipt of the NAP check. In general the data seem most notable in terms of the infrequency of reported problem under either program. The majority of recipients report that they have no preference between coupons or checks for receiving their food assistance benefits. About 40 percent prefer checks with the most frequently reported reason being convenience, i.e., they do not have to stand in line to get food coupons. Only about ten percent of recipients prefer coupons for a variety of reasons.

When asked whether they had changed the amount of food they purchased since the introduction of NAP, the majority of recipients state that they now buy about the same amount of food as they did during the FSP. About one quarter of recipients report purchasing less food and eight percent report purchasing more food. When asked whether they had changed their purchase amounts of specific products the majority of recipients report purchasing the same amounts of products with the items showing both the smallest decreases and largest increases in purchases being diet staples. Relatively few recipients report purchasing expensive food products or non-food products.



## Chapter V

### Retailer Experiences Under the Nutrition Assistance Program

A major goal of the Nutrition Assistance Program (NAP) evaluation is to assess the effects of NAP on the retail food sector. More specifically the evaluation was designed to determine the impact of NAP on the financial status of food retailers. Providing food assistance benefits in the form of checks rather than food coupons is a major procedural change for food retailers in Puerto Rico. Therefore, how retailers respond to this change is of interest to this evaluation.

Generally, food assistance programs are intended to increase recipients food purchases and thereby their food consumption. If benefits in the form of cash tend to reduce food purchasing, the financial status of retailers should be negatively effected. Potential indicators of impacts on food retailers' experiences and preferences regarding the new cash program are also possible measures of NAP impact.

This chapter presents data from a survey of a representative sample of retail food stores in Puerto Rico. The specific research questions to be addressed regarding the effects of NAP on the retail food sector are listed below:

- o What is the effect of NAP on food retailers:
  - . gross sales,
  - . business closures, and
  - . employment practices?
- o What are food retailers:
  - . NAP check cashing policies and procedures,
  - . preferences for NAP checks versus coupons,
  - . perceptions of changes in food assistance customer purchases; and
  - . marketing responses to NAP?

### Summary of Retailer Survey Results

This section provides a summary of the results of the FNS retailer survey. For the interested reader, it is followed by a detailed discussion of the evaluation strategy, the survey methodology, and the data analyses and findings.

Summary—Gross Sales. Depending upon whether the sample is restricted to include just stores which had written sales records, or is expanded to include stores for which only qualitative information on sales changes could be obtained, between two-thirds and three-fourths of grocery stores experienced reductions in gross sales between October 1981 and October 1982. The gross sales of many stores fell by more than 25 percent. The owners or managers of nearly all stores for which gross sales declined attributed all or part of the declines to the replacement of the FSP with the NAP on July 1, 1982. Stores whose customers included relatively few food coupon recipients were the least likely to have had sales reductions and the most likely to have had sales increases.

Summary—Store Closures. Fifty of the 954 retail grocery stores that were known to have been in business in June 1982 and were included in the FNS survey of food retailers had gone out of business by October 1982. It is not known how this compares with the normal rate of attrition. However, an identical number of stores in this sample are known to have begun operations between October 1981 and June 1982. Sketchy evidence exists which indicates that ten percent of these stores which closed did so for NAP-related reasons.

Summary—Employment. Grocery store employment over the period October 1981 to October 1982 decreased by 4.7 percent in response to sales reductions. The large proportion of small family-operated stores is believed to have been one factor which kept employment from falling by an even greater amount.

Summary—Preferences for NAP Checks Versus Food Coupons. The owners/managers of the sample stores which experienced reductions in gross sales between October 1981 and October 1982 were far more likely to prefer food coupons and far less likely to prefer NAP checks than the owners/managers of stores which experienced no change in gross sales or increases in gross sales. The most frequently cited reason for preferring food

coupons was that they led people to purchase more food. The most frequently cited reason for preferring NAP checks was that they are administratively easier to handle than food coupons.

Summary—Check Cashing Policies. NAP checks were accepted at 98 percent of the grocery stores which participated in the FNS survey of food retailers. One or more pieces of identification were required to cash a NAP check at more than half of the stores. Some retailers who reported that no identification was required may have done so because they personally knew all of their customers. Bad NAP checks had resulted in financial losses for between one and four percent of the sample stores. The owners and managers of about nine out of ten of the stores reported that NAP checks were cashed only when purchases were made, and the unspent balances of NAP checks were always returned to customers in the form of cash.

Summary—Changes in Purchasing Behavior of NAP Customers. The owners and managers of two-thirds of the sample grocery stores reported that food purchasing by nutritional assistance recipients was lower under the NAP than under the FSP. Purchases by nutrition assistance recipients of a number of specific food and non-food items fell in more stores than they increased. These findings may result from biased reporting by store owners and managers who generally oppose NAP.

Summary—Marketing Responses to the NAP. The survey data indicate that few Puerto Rican food retailers responded to the NAP by adopting new marketing strategies or by changing their product lines.

### Evaluation Strategy

Assessing effects of NAP on retail stores is complicated by a number of factors and no single analytic approach appeared to be adequate by itself. To improve interpretability of findings and assure that results could be generalized to retail grocers throughout Puerto Rico, the Food and Nutrition Service collected and analyzed two different data sets which can be used to assess the effects of NAP on the retail food sector.

The first approach, a survey of a representative sample of retail food stores, which is discussed in this chapter, gives a description of retailer experiences under NAP which

can be generalized to all retail food stores islandwide. The data are, of necessity, mostly qualitative and require some caution in interpretation. This is because these data represent the self-reported perceptions of a group with a clear vested interest in food assistance programs during a period when there was extensive public discussion and press

Chapter VI, is based on a sample of approximately 100 supermarkets selected from the ten largest supermarket chains in Puerto Rico. This is a sample of convenience, selected



Table V-1

Annual Food Stamp Redemptions and Gross Sales of  
Supermarkets and Grocery Stores Authorized Under the  
Food Stamp Program in Puerto Rico in 1980\*

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Type of Store	Number of Stores	Annual Food Stamp Redemptions (Millions \$s)	Annual Gross Sales (Millions \$s)	Redemptions as Percentage of Gross Sales
Supermarket	886 (7.5)	342.4 (50.0)	1,121.8 (64.5)	30.5
Small/medium Grocery stores	10,910 (92.5)	342.5 (50.0)	617.4 (35.5)	55.5
Total	11,796 (100.0)	684.9 (100.0)	1,739.2 (100.0)	

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Source: FNS 1983 Evaluation of the Puerto Rico Nutrition Assistance Program.

Note: Numbers in parentheses are column percentages.

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\* 1980 data are the most recent gross sales data available from Food Stamp Program records.

the smaller grocery stores in Puerto Rico are one or two person operations and generally do not maintain good written sales records.

Using available data from Food Stamp Program records for 1980, Table V-1 also shows that the smaller grocery stores were more dependent upon food stamp receipts than were the supermarkets. Food stamp redemptions as a percentage of total gross sales (cash receipts plus food stamps) show that for every one dollar of total gross sales, supermarkets on average received 30 cents in food stamps while grocery stores on average received 55 cents in food stamps.

Considering these facts, it is clear that the large numbers of small grocery stores are an important part of the retail food sector in Puerto Rico and that they may be affected differently by the program change to NAP than supermarkets. Therefore despite the known absence of good sales records among many of these smaller stores, it was believed that the experiences of small stores were of interest to an evaluation of the new Nutrition Assistance Program. These considerations, in part, justified the conduct of a survey of grocery stores and supermarkets that was representative Islandwide.

Program Changes are Confounded. The introduction of NAP combines two changes, a reduction in program funding, and a change from coupons to cash benefits making it difficult to disentangle the independent impact of each change. Each of these changes could potentially reduce the level of retail food sales. During the Fiscal Year 1982 Food Stamp Program (FSP), the average monthly issuance of food stamps was \$74.5 million. Because of reduced program funding, in the first six months of NAP operations the average monthly issuance of food assistance checks was \$65.8 million. Thus, simply considering program dollars available to be spent in retail food purchases, NAP constituted an \$8.7 million or 11.8 percent monthly reduction over the FSP. However, a major concern regarding the NAP was that the change to cash food assistance might serve to weaken the program's linkage between the assistance and participant's food purchases. If under cash food assistance participating households do reduce their food expenditures, this would lead to further reductions in retail food sales beyond what could be predicted based on the reduced NAP funding levels.

Changes Unrelated to NAP. A third issue that is relevant to an analysis of NAP impacts is that factors unrelated to NAP have been changing over time that can also affect the retail food sector. The general economy in Puerto Rico has been in a severe recession characterized by lack of economic growth and unemployment rates reaching record levels of 24.6 in July 1982. It is likely that retail food sector growth has also been affected by economic conditions. Predictions based on general economic changes and on the NAP program change are the same; both could lead to reduced retail food sales. Thus an important analytic requirement is to separate such general economic changes from any changes attributed of NAP.

Another change which occurred specifically in the retail food sector during 1982 was the closing of all Grand Union stores in Puerto Rico. Grand Union had been the second largest supermarket chain in Puerto Rico in terms of sales volume and had operated 17 stores, all of which were closed by the middle of June 1982. The closure of Grand Union at the same time as the conversion of the FSP to NAP, confounds these two changes. However, in contrast to the predicted effect of NAP, and the predicted effect of general economic changes, the Grand Union closure should have produced increases in food sales after June 1982. Other stores which picked up former Grand Union customer business should realize increased sales. Thus it is important to separate the effect of the Grand Union closure from the effect of NAP, since not to do so should lead to underestimates of the magnitude of a negative NAP effect.

#### Retail Food Store Survey Methodology

In order to describe the experiences of Puerto Rico food retailers under NAP, the Food and Nutrition Service conducted a personal interview survey of manager/owners of grocery stores and supermarkets in Puerto Rico during December 1982 and January 1983. The survey results are computed from a probability sample of food retailers selected to represent the population of approximately 8,000 grocery stores and supermarkets authorized under the Food Stamp Program in Puerto Rico in June 1982.

Sample Design. The sample design was a stratified random probability sample. A complete computerized listing of all authorized food retailers kept by the Food and Nutrition Service served as the sample frame for this survey. A 12 percent random

sample was selected from each of two types of stores, supermarkets and small/medium grocery stores that were authorized under the Food Stamp Program and actively redeeming coupons during June 1982. The sample of stores to be visited contained 954 stores. This sample had been screened in advance to delete 39 stores that were under investigation for violations under the FSP. Of the 954 stores, 50 stores had closed, 50 stores had not been in business during October 1981 and were not interviewed and 50 stores either refused to be interviewed or had extensive missing data and were deleted from the sample. Thus, the sample for analysis contained 804 stores. This combined sample of grocery stores and supermarkets allows estimates which, due to sampling error, can be expected to be within a range of  $\pm 3$  percent of the population value at the 95 percent confidence level.

Survey Procedure. The survey data were collected from qualified respondents who were defined as store owners/managers or other persons who were most familiar with the stores' sales and business experiences during the past year. Personal interviews of the store owners/managers were conducted in the store by trained interviewers from the FNS Caribbean Area Office using a specially prepared questionnaire in Spanish.

The interviewer requested sales figures for the months of October 1981 and October 1982 and asked for an explanation for changes in sales. Such figures were available from 317 of the 804 sampled grocery stores that had been in operation in both months. When recorded sales figures were not available (487 stores), the interviewer asked the store owner/manager to estimate whether sales were higher, lower, or about the same for the two reference months, and then proceeded to ask for explanations for any changes. Information on the number of paid employees during these two periods was requested along with explanations for any changes. Information was also requested on the proportion of the store's customers receiving food assistance under the FSP. Additional topics covered included the retailer's NAP check cashing policies and procedures; perceptions of purchasing behavior of NAP customers including differences, if any, during the FSP versus NAP; reported marketing behavior; and preferences for checks versus coupons.

Attempts were made to reduce possible retailer bias against NAP by asking for objective data where available. However, anecdotal information obtained from interviewer accounts and knowledge of organized opposition to NAP by retailers suggests that some caution should be used in interpreting these data.

### The Effect of NAP on the Gross Sales of Grocery Stores

In the following discussion of changes in gross sales, quantitative information is presented for the subsample of 317 stores with written sales records, while qualitative information is presented for the full sample of 804 stores. Stores with written sales records tended to be larger than stores without such records. Based on sales data from FNS program files, it was determined that 43 percent of the sample stores with written sales records had average monthly sales of \$10,000 per month or more. Only 14 percent of the sample stores without written sales records achieved this volume of sales. This finding implies that changes in gross sales reported below for stores with written sales records are not representative of the entire population of grocery stores in Puerto Rico.

The change in gross sales is believed to be the best available indicator of the total effect of the conversion from the FSP to the NAP on the financial status of food retailers. While the change in food sales is of more immediate interest in this evaluation, written records of food sales are almost never available from stores. The best approximation to food sales is from store owners/managers' estimates of the proportion of gross sales accounted for by food. Since those estimates are likely to be quite unreliable, this analysis is based on gross sales.

It is hypothesized that the conversion from the FSP to the NAP resulted in a reduction in aggregate food expenditures. This hypothesis is based upon the possibility that food coupons constrained some participants in the FSP to purchase more food than they would have if their benefits had been in the form of cash. The lower level of program funding under NAP also leads to the prediction of reduced food expenditures. Monthly funding of the NAP was 11.8 percent lower than that of the FSP during fiscal year 1982. If replacement of the FSP with the NAP caused aggregate food expenditures to fall, then many of the 804 sample grocery stores which were in business in both October 1981 and October 1982 are likely to have experienced reductions in their gross sales. Table V-2 shows the distribution of the subsample of stores with recorded sales figures and the distribution of all sample stores by the qualitative change in October gross sales between 1981 and 1982. The distribution of stores with recorded sales figures by the quantitative change in current dollar gross sales is also shown.<sup>1/</sup> Two-thirds of the stores in the full

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<sup>1/</sup> Retail food prices in Puerto Rico rose by 1.2 percent between October 1981 and October 1982, as measured by the Consumer Price Index for food items. Because the increase was small, references to dollar sales amounts in this chapter are in terms of current dollars rather than inflation-adjusted dollars, unless otherwise noted.

Table V-2

Distribution of Retail Grocery Stores by  
Change in Current Dollar Gross Sales Between  
October 1981 and October 1982, and by the  
Availability of Recorded Sales Figures

Change in Gross Sales	Stores with Recorded Sales Figures	All Stores
A. <u>Sales decreased</u>	248	545
	(78.2)	(67.8)
50% or more	30	
25-49%	96	
15-24%	52	
5-14%	63	
1-4%	7	
B. <u>Sales did not change</u> <sup>a</sup>	14	105
	(4.4)	(13.1)
C. <u>Sales increased</u>	55	62
	(17.4)	(7.7)
1-4%	1	
5-14%	21	
15-24%	16	
25-49%	4	
50% or more	13	
D. <u>Unknown</u>	0	92
	(0.0)	(11.4)
Total	317	804 <sup>b</sup>
	(100.0)	(100.0)

Source: FNS 1983 evaluation of the Puerto Rico Nutrition Assistance Program. Analysis of FNS 1982-83 survey of Puerto Rico retail food stores.

Note: Numbers in parentheses are column percentages.

<sup>a</sup>Stores with recorded sales figures are classified as having had no change in sales if the computed change was less than one percent. Stores without recorded sales figures are classified as having had no change in sales if their owners/managers expressed the opinion that sales had not changed.

<sup>b</sup>Includes 487 stores without recorded sales figures and 317 stores with recorded sales figures.

sample experienced reductions in gross sales, while less than one-tenth experienced sales increases. Thirteen percent of the owners/managers of stores in the full sample reported that no changes had occurred in gross sales between October of 1981 and October of 1982.

Comparison of Stores with and without Written Records. The Table V-2 distribution of stores with written sales records by the qualitative change in gross sales is rather similar to the distribution for all stores. This is the case even though stores with written records tend to be larger than stores without written records. If the category, "no change," for stores with written records had been defined to include changes of up to 5 percent, rather than 1 percent, then the two distributions would have been more similar.

Percentage Change in Gross Sales. The information provided in Table V-2 on the distribution of stores with written sales records by the percentage change in gross sales between October 1981 and October 1982 is quite interesting. Gross sales fell for 248 of 317 of these stores. Slightly less than half of the sales reductions were smaller than 25 percent. Thirty-nine percent of the sales reductions were in the range of 25-49 percent. A surprising 12 percent of the gross sales reductions exceeded 50 percent. Thus, the first column of Table V-2 shows that three-fourths of the sample stores with written sales records experienced sales reductions, more than half of which exceeded 25 percent. The average percentage change in gross sales of the 317 sample stores with written sales records (including 248 stores for which sales fell, 14 stores for which sales did not change, and 55 stores for which sales increased) was -9.9 percent.

Possible Biases in Sales Data. The validity of the quantitative sales data reported in Table V-2 can legitimately be questioned. From an early date, food retailers in Puerto Rico opposed the conversion from the FSP to the NAP. They believed that it would adversely affect grocery store sales. Given their position regarding the NAP, grocery store owners and managers had an incentive to report gross sales figures which were consistent with a strong adverse effect of the NAP on the gross sales of their stores. To minimize the misreporting of gross sales data, FNS designed the survey instrument in such a way that this information was obtained only if it was based upon accounting records, sales receipts, or similar written records. Despite this precaution, it is possible that respondents were still able to misreport gross sales data so as to exaggerate the adverse impact of the NAP.

Caution about Causal Interpretation. Changes in sales from one year to the next can occur for many reasons. Therefore, one should be cautious about inferring from this evidence alone that the reduction in gross sales was caused by the conversion from the Food Stamp Program to NAP.

Gross Sales Changes by Proportion of Customers Who Used Food Stamps. Table V-3 provides additional information on the distribution of grocery stores with written sales records by the change in gross sales. There appears to be a relationship between the proportion of a store's customers who received food coupons in the pre-NAP period and the store's likelihood of having experienced a decline in gross sales between October 1981 and October 1982. The major difference is between stores for which coupon recipients accounted for 25 percent or less of all customers, and all other stores. Sixty-one percent of stores with 25 percent or less of food stamp customers experienced reductions in gross sales. Of stores having more than 25 percent of food stamp customers, 75 percent or more experienced reductions in gross sales. Although, this proportion does not increase monotonically with the proportion of food stamp customers, the frequency of gross sales reductions was still 16 percentage points greater for stores with the highest proportion of food stamp customers than it was for stores with the lowest proportion of food stamp customers. Among stores with written sales records, Table V-3 also shows that stores which had the lowest proportion of food coupon customers were twice as likely as other stores to have experienced increases in gross sales between October 1981 and October 1982.

Stated Reasons for Change in Gross Sales. The owners/managers of all but 34 of the 553 sample stores for which gross sales fell between October 1981 and October 1982 attributed all or part of the reductions to NAP. Frequently cited reasons include reduced participation in NAP and the loss of NAP customers to supermarkets and to stores which primarily sell non-food items. However, 479 stores cited at least one reason unrelated to NAP for the decreases in their sales. Adverse changes in the economy, including rising unemployment, were cited by 404 owners/managers.<sup>2/</sup> Changes in business competition, such as the opening of a new grocery store in the same neighborhood, were cited by 263 owners/managers. No other NAP-unrelated reason for sales reductions was cited by more than 25 retailers.

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<sup>2/</sup> The seasonally adjusted unemployment rate for Puerto Rico was 20.4 percent in October 1981 and 22.8 percent in October 1982. Its peak during this 12 month period was 24.6 percent in July 1982.



Table V-3

Distribution of Retail Grocery Stores by Percentage Change in  
Current Dollar Gross Sales Between October 1981 and October 1982  
and by the Percentage of Customers Who Received Food Coupons in  
January-June 1982

Percentage Change in Current Dollar Gross Sales	Percentage of Customers Who Received Food Coupons					Total
	0%-25%	26%-50%	51%-75%	76%-100%	No Response	
<b>A. Sales decreased</b>	20	67	84	75	2	248
	(60.6)	(81.7)	(84.8)	(75.0)	(66.7)	(78.2)
50% or more	1	4	12	12	1	30
25-49%	9	24	28	35	0	96
15-24%	4	16	15	17	0	52
5-14%	6	20	26	11	0	63
1-4%	0	3	3	0	1	7
<b>B. Sales did not change<sup>a</sup></b>	2	4	1	7	0	14
	(6.1)	(4.9)	(1.0)	(7.0)	(0.0)	(4.4)
<b>C. Sales increased</b>	11	11	14	18	1	55
	(33.3)	(13.4)	(14.1)	(18.0)	(33.3)	(17.4)
1-4%	0	0	1	0	0	1
5-14%	4	4	5	8	0	21
15-24%	2	3	4	6	1	16
25-49%	1	1	1	1	0	4
50% or more	4	3	3	3	0	13
<b>Subtotal: Stores with recorded sales figures</b>	33	82	99	100	3	317
	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)
<b>Stores without recorded sales figures</b>	44	123	171	135	14	487
<b>Total: All stores</b>	77	205	270	235	17	804

Source: FNS 1983 evaluation of the Puerto Rico Nutrition Assistance Program. Analysis of FNS 1982-83 survey of Puerto Rico retail food stores.

Note: Numbers in parentheses are column percentages of stores with recorded sales figures.

<sup>a</sup>Sales increased or decreased by less than one percent.

Table V-4 shows that the frequency with which only NAP-related reasons were given for reductions in gross sales rises from 4 percent in stores with the smallest proportion of food stamp customers to 13 percent in stores with the highest proportion of food stamp customers. It is not surprising that the owners and managers of the stores which were most dependent upon patronage by food coupon recipients were most likely to attribute sales reductions exclusively to NAP.

Most of the owners or managers of the 62 sample stores for which gross sales increased attributed the increases to factors unrelated to the NAP. A change in store selling methods was the most commonly cited single reason for an increase in gross sales. Only in stores with the lowest proportion of food stamp customers did more than half of the respondents cite NAP-related reasons for sales increases. Thus, there is some evidence, albeit based on a small number of observations, that stores which previously attracted relatively few food coupon customers were most likely to thrive under the NAP.

Summary—Gross Sales. Depending upon whether the sample is restricted to include just stores which had written sales records, or is expanded to include stores for which only qualitative information on sales changes could be obtained, between two-thirds and three-fourths of grocery stores experienced reductions in gross sales between October 1981 and October 1982. The gross sales of many stores fell by more than 25 percent. The owners or managers of nearly all stores for which gross sales declined attributed all or part of the declines to the replacement of the FSP with the NAP on July 1, 1982. Stores whose customers included relatively few food coupon recipients were the least likely to have had sales reductions and the most likely to have had sales increases.

#### Retail Grocery Store Closures Since the Inception of NAP

Sales reductions of the magnitude reported in the previous sections portray an adverse business environment in which a large number of Puerto Rican grocery stores may have gone out of business. Information on the incidence of grocery store closures in Puerto Rico during the summer and fall of 1982 is provided in Table V-5. This table shows that 5.2 percent of the 954 grocery stores which were included in the FNS survey on the basis of their active redemption of food coupons in June of 1982 had gone out of business by October. Information obtained from the current occupants of the buildings in which these stores were located, or from the owners of neighboring stores, indicates that 10 percent of the stores which closed did so as a consequence of NAP-related sales

Table V-4

Distribution of Retail Grocery Stores by Reasons  
For Qualitative Change in Gross Sales Between October 1981  
and October 1982, and by the Percentage of Customers  
Who Received Food Coupons in January-June 1982

Reasons for Change in Gross Sales	Percentage of Customers Who Received Food Coupons					Total
	0%-25%	26%-50%	51%-75%	76%-100%	No Response	
A. <u>Sales decreased</u>	45	143	193	154	10	545
	(58.4)	(69.8)	(71.5)	(65.5)	(58.8)	(67.8)
Reasons cited are all related to NAP	2	12	25	20	2	61
Reasons cited are all unrelated to NAP	2	8	8	10	1	29
Some reasons cited are related to NAP	40	122	157	124	7	450
No reasons given	1	1	3	0	0	5
B. <u>Sales did not change</u>	12	34	23	33	3	105
	(15.6)	(16.6)	(8.5)	(14.0)	(17.6)	(13.1)
Reasons cited are all related to NAP	0	1	2	1	0	4
Reasons cited are all unrelated to NAP	4	10	5	12	1	32
Some reasons cited are related to NAP	1	1	0	0	0	2
No reasons given	7	22	16	20	2	67
C. <u>Sales increased</u>	13	13	15	20	1	62
	(16.9)	(6.3)	(5.6)	(8.5)	(5.9)	(7.7)
Reasons cited are all related to NAP	0	0	1	2	1	4
Reasons cited are all unrelated to NAP	6	9	7	12	0	34
Some reasons cited are related to NAP	7	4	5	4	0	20
No reasons given	0	0	2	2	0	4
D. <u>Unknown</u>	7	15	39	28	3	92
	(9.1)	(7.3)	(14.4)	(11.9)	(17.6)	(11.4)
Total	77	205	270	235	17	804
Percentage of all stores	9.6%	25.5%	33.6%	29.2%	2.1%	100.0%

Source: FNS 1983 evaluation of the Puerto Rico Nutrition Assistance Program. Analysis of FNS 1982-83 survey of Puerto Rico retail food stores.

Note: Numbers in parentheses are column percentages.

Table V-5

Reasons for Retail Grocery Store Closures  
During the Period June-October 1982

Reason for Store Closure	Number of Stores	Percentage of Stores
A. <u>Store closed<sup>a</sup></u>	<u>50</u>	<u>5.2</u>
Due to poor sales as a consequence of the NAP	5	0.5
Due to poor sales for reasons unrelated to the NAP	15	1.6
Other reasons	22	2.3
Reasons for closure is unknown	8	0.8
B. <u>Store was still in business     in October 1982</u>	<u>864</u>	<u>90.6</u>
Store was in business in October 1981 <sup>b</sup>	804	84.3
Store was not in business in October 1981	50	5.2
Store's October 1981 status is unknown	10	1.0
C. <u>Store's October 1982 status     is unknown</u>	<u>40</u>	<u>4.2</u>
Total	954	100.0

Source: FNS 1983 evaluation of the Puerto Rico Nutrition Assistance Program. Analysis of FNS 1982-83 survey of Puerto Rico retail food stores.

<sup>a</sup>Information regarding stores which closed was obtained from the current occupants of these locations or from neighboring store owners or residents.

<sup>b</sup>The 804 retail grocery stores which were known to be in business in both October 1981 and October 1982 constitute the universe of respondents for the tables in this chapter.

declines. Sales reductions attributable to poor economic conditions, increased competition, or other factors accounted for an additional 30 percent of all closures. Factors unrelated to sales, such as the retirement, illness, or death of a store owner, were responsible for 44 percent of store closures. Because this information on the reasons for store closures was obtained from individuals who may have been only casually acquainted with the former store owners and their business operations, it is not believed to be highly reliable.

However, Table V-5 also shows that 5.2 percent of the 954 stores in the sample had not been in business in October 1981. In this sample 50 stores opened between October 1981 and June 1982, the same number as went out of business between June 1982 and October 1982. These data suggest that the store closings may represent normal attrition and change of ownership, but they should be interpreted with care since the data are from different periods in time.

Summary--Store Closures. Fifty of the 954 retail grocery stores that were known to have been in business in June 1982 and were included in the FNS survey of food retailers had gone out of business by October 1982. It is not known how this compares with the normal rate of attrition. However, an identical number of stores began operating between October 1981 and June 1982. Sketchy evidence exists which indicates that 10 percent of these stores which closed did so for NAP-related reasons.

#### The Effect of NAP on Employment in Grocery Stores

When a grocery store goes out of business, all of its employees lose their jobs. When a grocery store experiences a loss of sales but remains in business, a strong possibility exists that some of its employees will lose their jobs. The information on store closures and sales reductions which was presented in the preceeding sections therefore suggests that the FSP-NAP transition may have been accompanied by significant reductions in grocery store employment.

The survey of Puerto Rican food stores did not obtain information on the number of people who had been employed by grocery stores which went out of business. Therefore, it is impossible to assess the extent to which the number of grocery store employees fell as a consequence of NAP-induced store closures.

The vast majority of the 804 sample grocery stores which were in operation in both October 1981 and October 1982 were small stores. Eight-two percent of the sample stores had only one or two full-time employees in October 1981. The sample stores employed a total of 1974 persons in 1981, an average of 2.5 employees per store.

Table V-6 shows the employment changes which occurred among the sample stores that were in business in October 1981 and October 1982. Employment fell in 8 percent of the sample stores and rose in 4 percent. The total number of persons employed by the sample stores fell to 1,882, a reduction of 4.7 percent. The average number of employees per store was 2.4 in October 1982. Stores which were very dependent upon patronage by food coupon recipients were somewhat more likely to have dismissed employees than other stores. The owners or managers of approximately 80 percent of the stores which dismissed employees reported that they did so because of reductions in sales.

An employment decline of nearly 5 percent in the retail food sector is of considerable policy concern. Given the large sales reductions reported for many stores, it is somewhat surprising that the employment decline was not even more pronounced. The dominance of small stores in the sample may have muted the employment response to sales reductions. The owners or managers of large stores are more likely to respond to sales reductions by dismissing employees than are the proprietors of small stores. The employees of a small store tend to be family members who are "paid" some portion of the store's net revenues. When sales fall, such employees are rarely dismissed. Rather, they spend more idle time on the job, and the pool of net revenues from which their wages are paid shrinks.

Summary—employment. Grocery store employment over the period October 1981 to October 1982 decreased by 4.7 percent in response to sales reductions. The large proportion of small family-operated stores is believed to have been one factor which kept employment from falling by an even greater amount.

#### Retailer Preference for NAP Checks Versus Food Coupons

We have seen that approximately two-thirds of the stores in the FNS survey of food retailers experienced reductions in gross sales over a one year period which encompassed the replacement of the FSP with the NAP. When asked why sales declined, the owners

Table V-6

Distribution of Retail Grocery Stores by  
the Change in the Number of Full-Time  
Employees Between October 1981 and October 1982

Change in Number of Full-Time Employees	Percentage of Customers Who Received Food Coupons					Total
	0%-25%	26%-50%	51%-75%	76%-100%	No Response	
A. <u>Number of employees</u> <u>decreased</u>	6 (7.8)	11 (5.4)	24 (8.9)	26 (11.1)	0 (0.0)	67 (8.3)
1	1	4	19	13	0	37
2-3	4	4	4	10	0	22
4 or more	1	3	1	3	0	8
B. <u>Number of employees</u> <u>did not change</u>	67 (87.0)	185 (90.2)	232 (85.9)	198 (84.3)	15 (88.2)	697 (86.7)
C. <u>Number of employees</u> <u>increased</u>	4 (5.2)	9 (4.4)	10 (3.7)	8 (3.4)	0 (0.0)	31 (3.9)
1	1	5	4	3	0	13
2-3	1	3	5	5	0	14
4 or more	2	1	1	0	0	4
D. <u>Unknown change in</u> <u>number of employees</u>	0 (0.0)	0 (0.0)	4 (1.5)	3 (1.3)	2 (11.8)	9 (1.1)
Total	77	205	270	235	17	804
Percentage of all stores	9.6%	25.5%	33.6%	29.2%	2.1%	100.0%

Source: FNS 1983 evaluation of the Puerto Rico Nutrition Assistance Program. Analysis of FNS 1982-83 survey of Puerto Rico retail food stores.

NOTE: Numbers in parentheses are column percentages.

and managers of 94 percent of these stores volunteered one or more NAP-related reasons (Table V-4). In light of these responses, it would be quite surprising if the owners and managers of a clear majority of all the sample stores did not believe that NAP checks were a less desirable means of providing nutritional assistance than food coupons.

The "total" column in Table V-7 shows, as expected, that the owners and managers of more than three-fourths of the 804 sample grocery stores preferred food coupons to NAP checks. Only 14 percent preferred NAP checks, while 8 percent were indifferent between checks and coupons.

In Table V-7 it can also be seen that the distribution of attitudes of owners/managers toward NAP checks and food coupons differs considerably depending upon the sales experiences of their stores during a period encompassing the introduction of NAP. Among owners/managers of stores which experienced gross sales reductions, 85 percent preferred coupons and only 9 percent preferred checks. Among owners/managers of stores which experienced gross sales increases, 61 percent preferred coupons and 27 percent preferred checks. It is somewhat surprising to find such strong sentiment against checks among owners and managers of stores which thrived under the NAP program. Unexpectedly, the owners/managers of stores whose gross sales did not change were more favorably inclined toward NAP vis-a-vis food coupons than their counterparts in stores whose sales increased. They were far more evenly divided in their preferences: 44 percent preferred coupons while 35 percent preferred checks and 16 percent were indifferent.

Owners/managers reporting a preference for food coupons over NAP checks were queried about that preference. Table V-8 shows that the first response given by the vast majority was that food coupons generated more food sales than NAP checks. Only one-eighth as many owners/managers cited the second most prevalent first reason for preferring coupons--the desire to avoid selling items which had been restricted under the FSP, and/or the feeling that customers spent coupons on more appropriate items than is the case with NAP checks.

Only 14 percent of owners/managers preferred NAP checks to food coupons. More than half who had this preference indicated that it was based upon the greater administrative



Table V-7

Distribution of Retail Grocery Stores by Preference  
for Food Coupons or NAP Checks and by Qualitative  
Change in Current Dollar Gross Sales Between  
October 1981 and October 1982

Preference for Food Coupons or NAP Checks	Change in Current Dollar Gross Sales				Total
	Decrease	No Change	Increase	Unknown	
Food coupons are preferred	463 (85.0)	46 (43.8)	38 (61.3)	71 (77.2)	618 (76.7)
No preference	28 (5.1)	17 (16.2)	7 (11.3)	11 (12.0)	63 (7.8)
NAP checks are preferred	51 (9.4)	37 (35.2)	17 (27.4)	9 (9.8)	114 (14.2)
No response	3 (0.6)	5 (4.8)	0 (0.0)	1 (1.1)	9 (1.1)
Total	545 (100.0)	105 (100.0)	62 (100.0)	92 (100.0)	804
Percentage of all stores	67.8%	13.1%	7.7%	11.4%	100.0%

Source: FNS 1983 evaluation of the Puerto Rico Nutrition Assistance Program.  
Analysis of FNS 1982-83 survey of Puerto Rico retail food stores.

Note: Numbers in parentheses are column percentages.

Table V-8

Distribution of Retail Grocery Stores by First Stated  
Preference for Food Coupons or NAP Checks

Reason for Preference	Number of Stores	Percentage of Stores
A. <u>Food coupons are preferred</u>	<u>618</u>	<u>76.9</u>
With coupons, people buy more food	508	63.2
With coupons, benefits are larger and more people participate	3	0.4
Maintaining sufficient change to cash		
NAP checks is difficult	8	1.0
NAP results in customers shifting to larger stores	4	0.5
Don't want to sell previously restricted items to NAP participants, or coupons put to better use	61	7.6
Other reasons	3	0.4
No reason given	31	3.9
B. <u>No preference</u>	<u>63</u>	<u>7.8</u>
C. <u>NAP checks are preferred</u>	<u>114</u>	<u>14.2</u>
NAP checks permit the sale of more nonfood items	20	2.5
NAP checks are administratively easier than food coupons	67	8.3
Business is better with NAP checks	11	1.4
Other reasons	6	0.7
No reason given	10	1.2
D. <u>Preference is unknown</u>	<u>9</u>	<u>1.1</u>
Total	804	100.0

SOURCE: FNS 1983 evaluation of Puerto Rico Nutrition Assistance Program. Analysis of FNS 1982-83 Survey of Puerto Rico retail food stores.

ease in handling checks rather than coupons. Far smaller numbers of owners and managers said that they preferred checks because they permitted their stores to sell more nonfood items, or because business was better with NAP checks.

Summary--Preferences for NAP Checks Versus Food Coupons. The owners/ managers of the sample stores which experienced reductions in gross sales between October 1981 and October 1982 were far more likely to prefer food coupons and far less likely to prefer NAP checks than the owners/managers of stores which experienced no change in gross sales or increases in gross sales. The most frequently cited reason for preferring food coupons was that they led people to purchase more food. The most frequently cited reason for preferring NAP checks was that they are administratively easier to handle than food coupons.

#### Retailer Check Cashing Policies and Procedures

We have just seen that most food retailers who prefer NAP checks to food coupons do so because they are of the opinion that checks are administratively easier to handle than coupons. However, the handling of NAP checks by retailers is not entirely problem free. A retailer may suffer a financial loss if a bad NAP check is accepted. Also, problems with availability of cash change may arise when customers present NAP checks made out for more than the amounts of the purchases. The frequency with which these problems arise affects the attitudes of retailers toward the NAP. Also, the steps which retailers take to deal with these problems may affect the attitudes of NAP participants toward the program, as well as their choices concerning where to shop. Table V-9 summarizes the data on retailer check cashing policies and experiences presented below.

Although it is clear from the previous section that most Puerto Rican food retailers are unhappy with the NAP, very few of them refuse to accept NAP checks. Ninety-eight percent of the surveyed food retailers accept NAP checks, and only 2 percent do not. The majority (56 percent) of those who accept NAP checks protect themselves against the inadvertent acceptance of a bad (e.g., stolen) check by requiring the person who presents the check to show some form of identification. A number of standard identification cards such as a driver's license, social security card, or voter's registration card are accepted, as well as NAP identification cards. Some retailers report that the sales clerk's personal knowledge of the person presenting the check is sufficient identification. A large minority (43 percent) of retailers who accept NAP checks do not require those who present checks to show identification. It is likely that many of these

Table V-9

NAP Check Cashing Policies and Experiences  
of Retail Grocery Stores

NAP Check Cashing Policy or Experience	Number of Stores	Percentage of Stores
A. <u>NAP checks accepted</u>	<u>785</u>	<u>97.6</u>
1. Is identification required?		
Yes	437	54.4
No	340	42.3
No response	8	1.0
2. Have any bad checks been accepted?		
Yes <sup>a</sup>	28	3.5
No	749	93.2
No response	8	1.0
3. Is unspent balance returned in the form of cash or credit?		
Cash	725	90.2
Credit	13	1.6
Cash or Credit	29	3.6
No response	18	2.2
4. Is purchase required?		
Yes	703	87.4
No	73	9.1
No response	9	1.1
B. <u>NAP checks not accepted</u>	<u>15</u>	<u>1.9</u>
C. <u>NAP check cashing policy unknown</u>	<u>4</u>	<u>0.5</u>
Total	804	100.0

Source: FNS 1983 evaluation of the Puerto Rico Nutrition Assistance Program. Analysis of FNS 1982-83 survey of Puerto Rico retail food stores.

<sup>a</sup>As many as 22 of these stores may have been reimbursed for their losses, making the percentage of sotres suffering losses as low as 0.1.

retailers know all of their customers and therefore see no reason to ask them to show identification cards. Also, some of them may believe that they are safe in accepting government checks.

Table V-9 shows that 4 percent of the surveyed food retailers had accepted bad NAP checks. Little information could be obtained regarding the dollar amounts of losses from this source. As many as 22 stores may have suffered temporary losses due to the following situation. When a NAP beneficiary does not receive his or her check on time, a "stop payment" may be placed on the original check by DSS. If the beneficiary subsequently receives and cashes the original check, before the "stop payment" is lifted the accepting store is held liable. However, the store's loss is temporary if the situation is corrected through the removal of the stop payment.

Few retailers reported that their first reason for preferring food coupons to NAP checks was the difficulty of maintaining sufficient cash balances to redeem checks whose values exceed the purchase amounts (Table V-8). However, it is likely that this problem is encountered by some stores, especially by small stores. One way for retailers to circumvent this problem is to credit the unspent balance of a customer's NAP check to his or her account at the store. In addition to solving the store's cash availability problem, this policy has the following effects:

- o It forces a customer to spend the entire value of his NAP check in the store in which it was cashed. If it did not result in a loss of NAP customers, this would be viewed as a desirable effect by retailers to whom NAP checks are presented.
- o It forces NAP participants to purchase only those items which are stocked in the store in which his or her NAP check was cashed. If this was a traditional grocery store, this might have the effect of forcing the NAP participant to purchase mostly food items, much as was the case under the FSP.
- o because it restricts their freedom of choice, this policy might induce NAP participants to cash their checks in stores which offer cash change or which stock a greater variety of goods.

However, as indicated in Table V-9 very few of the sample retailers had the policy of providing credit rather than cash to customers for the unspent balances of their NAP checks. Less than 4 percent sometimes gave the unspent balance as credit; only about 2 percent always did this.

The cashing of NAP checks for people who make no purchases at all could create a more extreme cash availability problem for food retailers than the provision to customers of cash change for the unspent balances of their NAP checks. Table V-9 shows that only 9 percent of the sample retailers were willing to cash NAP checks when no purchases had been made. Two-thirds of these retailers placed some limit on the size of the check that they would cash without a purchase.

Summary—Check Cashing Policies. NAP checks were accepted at 98 percent of the grocery stores which participated in the FNS survey of food retailers. One or more pieces of identification were required to cash a NAP check at more than half of the stores. Some retailers who reported that no identification was required may have done so because they personally knew all of their customers. Bad NAP checks had resulted in financial losses for between 1 and 4 percent of the sample stores. The owners and managers of about 9 out of 10 of the stores reported that NAP checks were cashed only when purchases were made, and the unspent balances of NAP checks were always returned to customers in the form of cash.

#### Retailers' Perceptions of Changes in the Purchasing Behavior of NAP Customers

In this section, the responses of grocery store owners and managers to questions concerning specific changes in the purchasing patterns of NAP participants are examined. Interviewers asked store owners and managers whether NAP participants were purchasing more, less, or about the same amount of food as they had when they received food coupons. Two-thirds of the owners and managers replied that NAP participants were purchasing less food (Table V-10). Slightly more than one-fourth replied that the food purchasing of NAP participants had not changed. Less than 3 percent replied that the participants were purchasing more food. The overall picture obtained from Table V-10 is that the typical food assistance beneficiary purchased less food under the NAP than under the FSP. This reinforces the earlier finding of a substantial overall reduction in retail food sales between October 1981 and October 1982. However, we must keep in mind the fact that many grocery store owners and managers objected to NAP and may therefore have exaggerated its adverse effect on food purchasing.

Table V-10

Food Purchasing by NAP Check Recipients (July-  
October 1982) Compared to Food Coupon Recipients  
(January-June 1982), as Reported by Retail  
Grocery Stores

Change in Food Purchasing	Number of Stores	Percentage of Stores
More food purchased	20	2.5
Less food purchased	533	66.3
About the same amount of food purchased	228	28.4
Respondent does not know if food purchases have changed	19	2.4
No response	4	0.5
Total	804	100.0

Source: FNS 1983 evaluation of the Puerto Rico Nutrition Assistance Program. Analysis of FNS 1982-83 survey of Puerto Rico retail food stores.

Grocery store owners and managers were queried about changes which had occurred in the purchasing of seven specific products by nutrition assistance beneficiaries since the conversion from the FSP to the NAP. Their responses are shown in Table V-11. In examining this table it is again important to recall that customers who are not personally known to store owners and managers can be identified as being NAP participants only when NAP checks are actually cashed. When subsequent purchases are made, NAP participants are indistinguishable from other customers. Therefore, store owners and managers may not have accurate information regarding the purchasing patterns of NAP participants.

Table V-11 shows that expensive beef and seafood items were sold by few of the grocery stores which participated in the FNS survey. The owners and managers of most of the stores which did sell these items reported that nutrition assistance recipients purchased less of them under the NAP than under the FSP. At hardly any of the stores did NAP customers purchase more of these items than they had when the FSP was in operation.

Almost all of the sample stores sold five of the specified items (pastries, rice, alcoholic beverages, and general merchandise). In many of these stores, the purchasing of these items by nutrition assistance recipients fell when the FSP was replaced by the NAP. Reductions in the purchasing of items which had been restricted under the FSP occurred in roughly the same proportion of stores as reductions in the purchasing of unrestricted items. However, it is surprising that reduced purchasing of general merchandise occurred in the largest proportion of stores. Under the FSP, such goods could not be purchased with food coupons. Therefore, some basis existed for believing that the purchasing of general merchandise by nutritional assistance recipients would be stimulated by the conversion from the FSP to the NAP.

After the replacement of the FSP with the NAP, between 6 and 9 percent of the stores experienced increased purchasing of pastries, poultry, and rice by nutrition assistance recipients. However, purchasing by such customers of these foods decreased in about four times as many stores as it increased.

The conversion from the FSP to the NAP appears to have had a bigger positive impact on the purchasing of previously restricted items than it had on commonly sold food



Table V-11

Purchasing of Seven Products by NAP Check  
 Recipients (July-October 1982) Compared to Food  
 Coupon Recipients (January-June 1982), As Reported  
 by Retail Grocery Stores

Product	Number of Stores Citing Changes in Purchasing						Total
	More	Less	About the Same	Don't Know	Store Does Not Sell	No Response	
<u>Expensive food items</u>							
Beef (steak or other expensive cuts)	8 (1.0)	106 (13.2)	83 (10.3)	8 (1.0)	592 (73.6)	7 (0.9)	804 (100.0)
Shrimp, lobster, or other expensive seafood	4 (0.5)	82 (10.2)	52 (6.5)	7 (0.9)	651 (81.1)	8 (1.0)	804 (100.0)
Pastries	50 (6.2)	230 (28.6)	370 (46.0)	11 (1.4)	130 (16.2)	13 (1.6)	804 (100.0)
<u>Staples</u>							
Poultry	70 (8.7)	293 (36.4)	369 (45.9)	7 (0.9)	55 (6.8)	10 (1.2)	804 (100.0)
Rice	64 (8.0)	264 (32.8)	453 (56.3)	9 (1.1)	6 (0.7)	8 (1.0)	804 (100.0)
<u>Restricted items under the FSP</u>							
Alcoholic beverages and beer	139 (17.3)	200 (24.9)	291 (36.2)	46 (5.7)	118 (14.7)	10 (1.2)	804 (100.0)
General merchandise	126 (15.7)	310 (38.6)	345 (42.9)	14 (1.7)	2 (0.2)	7 (0.9)	804 (100.0)

Source: FNS 1983 evaluation of the Puerto Rico Nutrition Assistance Program. Analysis of FNS 1982-83 survey of Puerto Rico retail food stores.

Note: Numbers in parentheses are row percentages.

items. Purchasing by nutrition assistance recipients of alcoholic beverages and general merchandise both increased in about 16 or 17 percent of the sample stores. Nevertheless, the conversion appears to have had a negative net impact on the purchasing of these items. Among nutrition assistance recipients, purchasing of alcoholic beverages fell in 1.4 times as many stores as it increased. Purchasing of general merchandise fell in 2.5 times as many stores as it increased.

Summary—Changes in Purchasing Behavior of NAP Customers. The owners and managers of two-thirds of the sample grocery stores reported that food purchasing by nutritional assistance recipients was lower under the NAP than under the FSP. Purchases by nutrition assistance recipients of a number of specific food and nonfood items fell in more stores than they increased. These findings may result from biased reporting by store owners and managers who generally oppose NAP.

#### Marketing Responses of Food Retailers to the NAP

Puerto Rican food retailers were greatly concerned that the replacement of the FSP with the NAP would have large detrimental effects on their food sales. Given this concern, one might expect a significant proportion of them to have made marketing changes designed to minimize the negative effect of NAP on their stores. However, the FNS survey data indicate that this did not occur.

Only 12 percent of the sample retailers report that they responded to NAP by adopting such marketing strategies as offering special sales, reducing prices, or remodeling their stores. There was very little difference in the frequency of such marketing activities across stores with varying proportions of customers receiving food coupons. Further evidence of retailer passivity in response to NAP is provided by the survey finding that only 7 percent of retailers modified their product lines by stocking more alcoholic beverages, altering the number of food items that were stocked, or other such changes.

Summary—Marketing Responses to the NAP. The survey data indicate that few Puerto Rican food retailers responded to the NAP by adopting new marketing strategies or by changing their product lines.

In order to understand further the effects of the NAP on food expenditures in Puerto Rico, monthly supermarket sales data for a period prior to and after the policy change were examined. This chapter presents the results of the analysis of these data. The overall results suggest that the reduced level of nutritional assistance under the NAP and the replacement of food coupons with cash combined to cause modest reductions in supermarket sales. However, the analyses presented here cannot distinguish the separate effects of reduced program funding and the change to cash benefits.

The first section below describes the data used in the analysis. The second section then discusses the analysis techniques and independent variables which were used. The results of a descriptive analysis and a regression analysis are presented in sections three and four. Conclusions drawn from the analysis regarding the effects of the NAP on supermarket sales are presented in the final section.

#### Data

Monthly data on gross sales for the period July 1979 through November 1982 were obtained from seven supermarket chains on the Island. The inclusion of stores in the sample depended largely on the ability and willingness of chain officials to provide data within the short time frame available for the research, and thus the sample cannot be

The total annual sales of stores in the sample, aggregated across stores, was approximately \$650 million. Total 1982 food sales in Puerto Rico were approximately \$2,960 million<sup>1/</sup>. These numbers are not quite comparable, since the sales data in our sample are gross sales and thus include some nonfood items. Nevertheless, since most supermarkets on the island sell principally food, the above data suggest that stores in our sample account for approximately 22 percent of the total value of food sales on the Island. According to FNS program records, approximately 45 percent of all food sales in Puerto Rico are made by supermarkets. Thus, stores in our sample account for about half of all supermarket sales on the island.

Data were obtained for gross store sales rather than just for food sales because preliminary discussions with store officials suggested that providing separate data on food sales would be much more difficult than providing the gross data. In light of this, it was believed that attempting to obtain data on food sales was not desirable. To do so would have imposed considerably greater reporting burdens on the stores and probably would have resulted in a smaller sample size, since some stores might not have been willing to incur the expense necessary to develop such data. It was also felt on the basis of these preliminary conversations that gross sales data were likely to be more accurate than food sales data would be. To adjust for inflation in food prices, all sales figures have been expressed in January, 1982 dollars.<sup>2/</sup>

Hard copy data—mostly in the form of handwritten recording forms—were initially obtained for approximately 130 stores. After eliminating stores for which data for most of the 41-month period were missing, the sales information for 125 stores was entered into a computer file. Due to additional missing data problems this 125 store file was reduced further to 99 stores. The analysis reported below was performed with a sample limited to these 99 stores with full data sets. During preliminary stages of the research, some analysis was done using the full 125-store data set, and it does not appear that any of the basic results reported below would be altered if the full data set were used.

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<sup>1/</sup>This amount is fiscal year 1981 food consumption expenditures expressed in January 1982 dollars, using the CPI for food in Puerto Rico.

<sup>2/</sup>The food component of the Consumer Price Index for Puerto Rico was used for this adjustment.

### Analysis Methods

Two basic analysis methodologies have been utilized. First, direct comparisons have been made between average monthly sales for selected periods before and after the conversion from the FSP to the NAP. This is presented in the section titled "Descriptive Analysis". Second, regression methods have been used to attempt to control for the effects of other possible factors which might have influenced sales. In particular, two sets of regressions have been estimated, one in which the basic unit of observation is average monthly sales for a given month, aggregated over all the stores in the sample (i.e.,  $N = 41$  months); and a second, disaggregated, version in which each month's observation for each store is a unit of observation (i.e.,  $N = 41$  months times 99 stores, or 4059 observations). The disaggregated regression model appears to provide more valid estimates of the effects of NAP on supermarket sales. For that reason the disaggregated analysis is presented in the text which follows. The analysis of the aggregated data is presented in Appendix B.

### Independent Variables Used

The only information obtained from the stores themselves for the study was their monthly sales data. Therefore, the available data with which to attempt to control for the effects of other factors in the regression models are somewhat limited. Certain factors can, however, be at least partially controlled for, as discussed below.

Level of economic activity. It is likely that food sales, like sales of other consumption goods, are affected by changes in disposable personal income. Unfortunately, monthly data on disposable income in Puerto Rico were not available for the analysis. Therefore, as a proxy for this variable we have used the island unemployment rate. This variable has been expressed in decimal rather than percentage form in the empirical analysis.

Supermarket chains. In order to account for possible differences among the seven supermarket chains, a series of binary (0,1) variables have been included in the disaggregated regressions to represent the various chains.

Time and seasonal factors. In order to account for possible trends over time in the data, we have included in the aggregated analysis a linear time trend variable which is 1 for the first period, 2 for the second, etc. Because the seven supermarket chains had widely different rates of growth of average gross sales per store, the time trend variable has been interacted with each of the seven binary supermarket chain variables in the

disaggregated analysis. In addition, binary variables representing each of the first three quarters of the year have been included to control for possible seasonal variation. (The fourth quarter is omitted to serve as the reference point for this adjustment.) Inspection of the data also shows that December is consistently a very high sales month, and an additional binary variable has been included to represent this month.

Grand Union store proximity. As discussed in Chapter V, one potentially confounding factor in an analysis of the effect of NAP on retail sales is that the Grand Union stores in Puerto Rico went out of business at almost exactly the same time that the NAP was introduced.<sup>3/</sup> In an attempt to deal with this, Food Stamp Program officials in Puerto Rico were asked to identify which stores in the sample had been in direct competition with Grand Union stores. For each of the 11 stores so identified, a variable was set equal to the natural logarithm of the sales volume of its Grand Union competitor which went out of business.<sup>4/</sup> This variable has been included in the disaggregated regressions both separately and interacted with a binary variable which equals 1 for the period after Grand Union ceased business and 0 otherwise.

NAP indicator. The FSP was replaced by the NAP on July 1, 1982. To capture the effect of this change on supermarket sales, a binary variable has been included in the regressions which takes on a value of 0 for each of the 36 sample months up to and including June 1982 and a value of 1 for each of the subsequent five sample months.

Five-week accounting periods. Supermarket chains were asked to provide FNS with sales data by store for calendar months. Six of the seven participating chains complied with this request. The remaining chain provided sales data based upon accounting "months" which include no partial weeks. Fifteen of the 41 accounting months are composed of five weeks, and the remaining are composed of four weeks. To correct for this accounting quirk, a binary variable was created which equals 1 for any five-week accounting month and 0 for all other months. This variable has been included in the

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<sup>3/</sup> June 1982 was the last month of operation of Grand Union stores in Puerto Rico. The NAP began on July 1, 1982.

<sup>4/</sup> Grand Union sales figures were obtained from the third month preceeding the closing of the respective Grand Union store. Sales amounts were converted to January 1982 dollars.

aggregated regression. The interaction of this variable and the binary variable for the chain which used this accounting system has been included in the disaggregated regressions.<sup>5/</sup>

In concluding this discussion of variables used in the analysis, it should be noted that the final regression specifications used were determined after considerable examination of the data, including preliminary regression analysis using various alternative specifications and variables. Thus, significance tests based on the final regression results must be taken as indicative of the likely importance of the various variables rather than as strictly-formal hypothesis tests. Additional technical issues related to the analysis are discussed in Appendix B.

#### Descriptive Analysis

Table VI-1 displays average monthly sales data for the 99 stores in the analysis sample. Because there appears to be some systematic variation across different parts of the year, our descriptive analysis will focus on the months for which sales data under the NAP are available, July through November.

As shown in the first row of the table, reported sales, deflated by the food portion of the Consumer Price Index for Puerto Rico, were higher during the NAP period (July-November 1982) than they were during the same months in the previous three years. This finding does not confirm the prior expectation that the NAP would reduce sales.

To understand why the five-month averages do not indicate a sales reduction during the NAP period, it is important to examine these data on a month-by-month basis. As can be seen from examining the individual month data in the table, during the July-September period of 1982, immediately after the introduction of the NAP, sales were higher than in previous years. Indeed, during July, the first month of the NAP period, monthly sales hit their highest level of the whole period covered by the data, except for December months which consistently have very high food sales because of the Christmas holiday.

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<sup>5/</sup> The supermarket chain which used the five week accounting month will henceforth be referred to as chain X.

There was a clear downward trend in the monthly data over the period following the introduction of the NAP. By the last two months for which data are available, October and November, monthly sales were lower than they had been in previous years, consistent with prior expectations about the likely effects of the NAP.

In light of these observations, one possible explanation of the pattern in the five-month averages is that some factor, either totally outside the analysis or perhaps associated with the transition to the NAP, raised sales over the summer but then receded in importance, thus allowing the true effect of the NAP to become evident. However, inspection of the entire data set shown in the table shows that substantial fluctuations from month to month are not uncommon in the data, so it is also possible that the relatively low October and November observations are due to such a random fluctuation and are not indicative of a longer term trend. There is no way to assess whether this is the case in the absence of additional data.

The fact that retailers could redeem food stamps up until July 31, 1982 may partially account for the July sales surge. Thus, during July a large volume of coupons were still being redeemed and all of the NAP benefits were also available. The closing of the Grand Union supermarket chain in June may also have been an important factor behind the summer 1982 surge in the average sales of the 99 stores in the analysis sample. The NAP and Grand Union effects are intertwined in the average sales data shown in Table VI-1. These two factors may be why it appears that the negative effect of the NAP on sales, if indeed there was one, was small. In the disaggregated regression analysis which is described in the following section, the effect of Grand Union's going out of business is at least partially controlled for, thus isolating the effect of the NAP.

In summary, then, a simple comparison of average data for the periods before and after conversion from the FSP to the NAP does not support the hypothesis that NAP substantially lowered sales. However, there is some evidence of a downward trend in the sales data following the introduction of the NAP. If this trend continues, or at least is not reversed, then average data based on a longer period of time would reveal a negative NAP impact.

Figure VI-1 displays the monthly data graphically. This figure further illustrates the fact that there is a noticeable downward trend in the post-NAP data and that this pattern is not evident in the comparable periods in the previous years.



Table VI-1

Average Sales Per Store  
for Sample of 99 Supermarkets<sup>a</sup>

	1982	1981	1980	1979
Average sales per month for July through November	443.4	442.2	436.2	422.7
Percentage changes in July through November average sales per month	-7.9	-4.4	+10.4	+5.9
<u>Average sales by month</u>				
January	402.8	418.5	426.2	
February	397.6	413.0	403.5	
March	439.7	417.3	416.6	
April	417.1	434.2	423.6	
May	431.2	441.5	436.4	
June	457.0	410.3	415.3	
July	461.9	456.0	414.1	412.6
August	452.3	447.5	452.0	434.9
September	447.1	431.9	411.0	397.7
October	430.5	440.0	446.6	431.3
November	425.4	435.8	457.1	437.1
December		525.3	524.5	501.0
<u>Unemployment rate<sup>b</sup></u>				
Whole year	22.7	19.8	17.1	----
July-November	23.1	20.9	17.1	17.2

Source: FNS 1983 evaluation of the Puerto Rico Nutritional Assistance Program. Analysis of monthly supermarket sales data, July 1979 - November 1982.

<sup>a</sup>Sales are expressed in 1000's of constant January 1982 dollars.

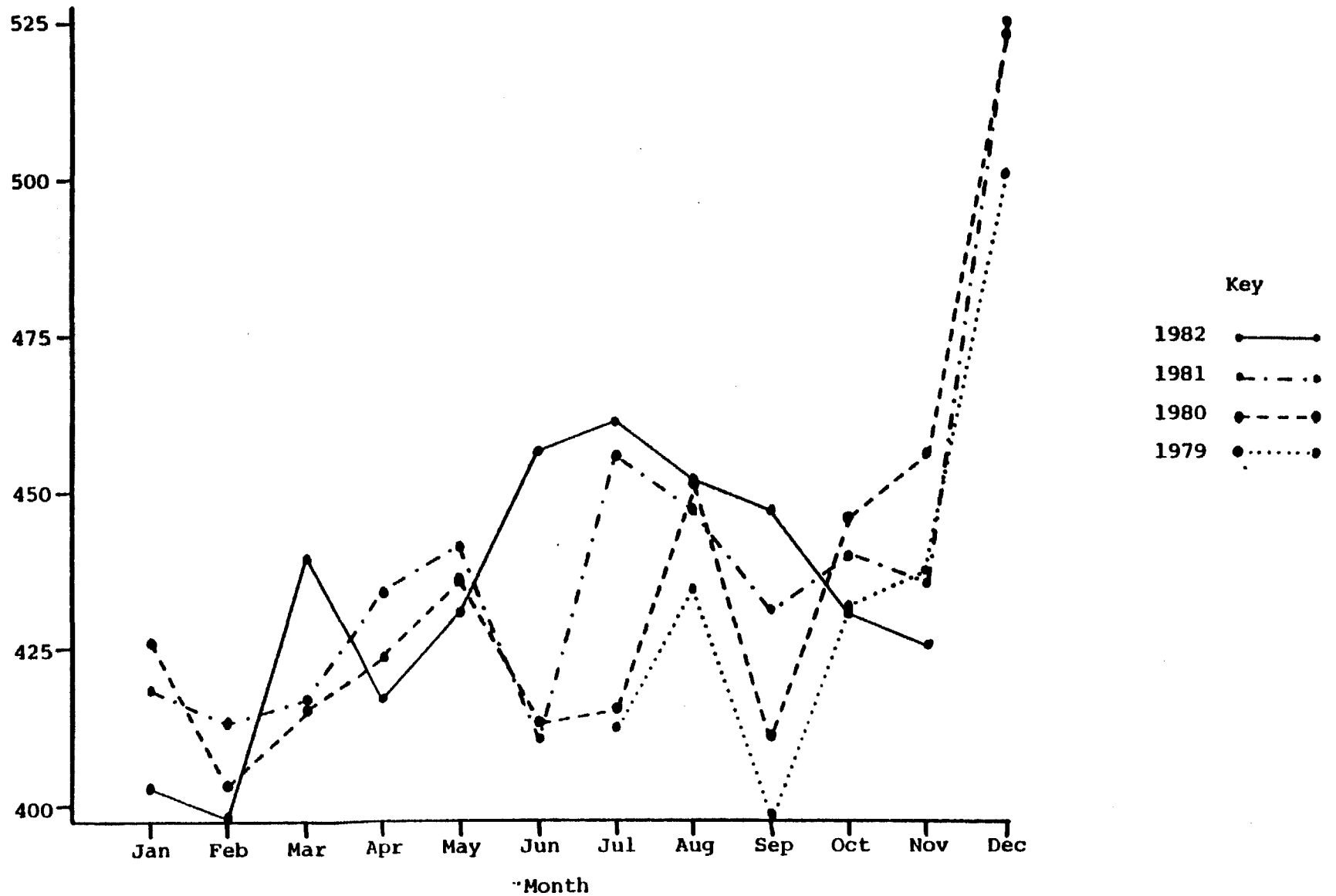
<sup>b</sup>Average of monthly rates (note that the decimal values used in the analysis have been converted to percentages for expository purposes).

Figure VI-1

Average Monthly Sales for 99 Supermarkets  
July 1979 through November 1982

Average Sales in  
1000's of Constant  
January 1982 Dollars

8-1A



### Regression Analysis of Disaggregated Data

Regression analyses were performed to explore the effects of the NAP on supermarket sales while controlling for time trends and various factors which affect sales. This analysis uses data on individual stores and controls for factors unique to them.

Analysis of Disaggregated Data. Table VI-2 presents the results of a regression analysis of the disaggregated data. Each unit of observation is a month for an individual store. The regression has been estimated using the deviations from store means technique which is described in Appendix B. This allows each store in the disaggregated analysis to have its own intercept, and each chain is permitted to have its own growth rate over time. The chain-specific growth rates of real sales are given by the coefficients on the seven chain-by-time interaction variables.

In order to protect the proprietary data of the supermarket chains which participated in the study, their estimated monthly growth rates cannot be revealed. However, the range of estimated growth rates is roughly between -2 percent and +1 percent per month. Six of the seven estimated coefficients on the chain-by-time interaction variables are statistically significant from zero at the five percent level. These interaction variables, along with the store-specific intercept terms are to a large measure responsible for this equation's high  $R^2$  of .98.

The unemployment rate enters into the disaggregated regression with a negative coefficient, as expected. However, its coefficient is not statistically significant from zero. The interaction of the five-week-month variable with the chain-X variable has a large and significant positive coefficient. It indicates that the sales of the stores in this chain were 21 percent higher in accounting months with five weeks than they were in accounting months with four weeks.

The natural logarithm of the monthly sales of competing Grand Union stores appears in the disaggregated regression interacted with a binary variable which "turns on" for months following June 1982, the month that Grand Union ceased to operate food stores in Puerto Rico. As expected, the coefficient on this interaction term is positive and statistically significant. This tells us that when a Grand Union store went out of business, any store in our data set which had been competing with it experienced an increase in sales. Furthermore, the amount by which sales increased was a positive

Table VI-2

Regression Analysis of Monthly Sales  
For Individual Stores<sup>a</sup>

Variable	Estimated Coefficient <sup>b</sup>	Mean of Variable <sup>c</sup>	Standard Deviation of Variable <sup>c</sup>
Quarter 1	-0.02626* (3.4090)	0.21951	0.41397
Quarter 2	-0.01133 (1.4578)	0.21951	0.41397
Quarter 3	0.00509 (0.7085)	0.29268	0.45505
December	0.14224* (13.5767)	0.07317	0.26045
Unemployment rate	-0.11876 (0.4791)	0.19405	0.02494
Ln Grand Union sales x out	0.01879* (4.8742)	0.08157	0.70007
NAP	-0.06047* (5.8972)	0.12195	0.32727
5 week month x chain X	0.20603* (26.7391)	d	d
Chain 1 x T	d	6.57576	11.77807
Chain 2 x T	d	1.48485	6.23583
Chain 3 x T	d	1.48485	6.23583
Chain 4 x T	d	0.21212	2.41353
Chain 5 x T	d	1.27273	5.79660
Chain 6 x T	d	1.27273	5.79660
Chain 7 x T	d	8.69697	12.84560

N: 4059

Mean of dependent variable: 5.67185

R<sup>2</sup>: .98134

Source: FNS 1983 evaluation of the Puerto Rico Nutritional Assistance Program. Analysis of monthly supermarket sales data, July 1979 - November 1982.

<sup>a</sup>The dependent variable is the natural logarithm of the monthly sales of individual supermarkets, in January 1982 dollars.

<sup>b</sup>Absolute values of "t" statistics are shown in parentheses.

<sup>c</sup>The means and standard deviations shown are for the untransformed (not in deviations form) variables.

<sup>d</sup>In order to maintain the anonymity of the supermarket chains which participated in this study, this information is not being released.

Note: The "deviations from store means" procedure which was used to estimate this equation permits each of the 99 sample stores to have a unique but unestimated constant term. The process of doing the deviations transformations of the variables uses up 99 degrees of freedom.

function of the monthly sales volume of the defunct Grand Union store. Eleven of the 99 stores in the analysis sample were known to have been competitors of 11 different Grand Union stores. The average monthly sales of these Grand Union stores was \$530,000 in January 1982 dollars. When these Grand Union stores closed, the sales of their competitors rose by 11.8 percent, on average.

Conclusions. The disaggregated regression supports the conclusion that the NAP reduced supermarket sales. The statistically significant negative coefficient on the NAP variable indicates that the replacement of the FSP by the NAP resulted in an average monthly sales reduction of 6 percent for the 99 supermarkets in the analysis sample. That is, sales for a typical store in a NAP month were 6 percent lower than in a pre-NAP month, after controlling for differences in the unemployment rate, seasonal differences, the closing of Grand Union, and other factors. From this analysis alone, it is not possible to identify the separate contributions of reduced program funding and change to cash benefits from coupons. However, Chapter VII will present estimates of the separate effects using economic theory and relevant data from earlier studies.

## Chapter VII

### Economic Effects

This chapter reviews potential economic impacts of the replacement of the Food Stamp Program (FSP) in the Commonwealth of Puerto Rico with the Nutrition Assistance Program (NAP). A major limitation of the chapter is that the direct estimation of these important effects has not been possible from the currently available data on the Puerto Rican economy and household consumption behavior. Consequently, a number of indirect approaches have been followed and some tentative conclusions advanced. It should be noted, however, that these conclusions indicate a high degree of uncertainty. At most, they can be taken as only indicative or suggestive in character rather than as reliable, much less definitive, policy estimates.

The indirect approaches followed have drawn on implications of the economic theory of household consumption behavior, on a number of statistical estimates of the effects of food stamp benefit and cash income changes on the food consumption spending of low-income households in the U.S. and Puerto Rico, and on selected aggregate economic data for the Puerto Rican economy over the period. A fourth promising estimating approach was tried using a newly developed large-scale econometric model of the Puerto Rican economy to simulate the major macroeconomic and sectoral impacts of food program changes. However, the model proved to be not yet ready for reliable application.<sup>1/</sup>

The chapter includes the following sections:

- o Summary of findings,
- o Overview of the Puerto Rican economy,
- o Economic impacts of food assistance programs at the household or micro level,
- o Estimated economic effects of the transition from FSP to NAP in Puerto Rico.

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<sup>1/</sup>"An Econometric Analysis of the Effect of Reductions In Food Stamp Benefits and Cash-out in Puerto Rico" (Draft Report), Governor's Economic and Financial Council, A. Udall and M. Hill, February 1983. See also: "A Review and Evaluation of an Econometric Model of Puerto Rico Developed by the Governor's Economic and Financial Council Draft Final Report", Sidney Saltzman, Cornell University, February 1, 1983.

- o Expected economic impacts of food assistance programs at the aggregate or macro level, and for agriculture, and
- o Conclusions.

### Summary of Findings

The economy of Puerto Rico has experienced serious and in many respects worsening economic problems over the past decade. Closely linked to the U.S. economy, it also is vulnerable to the rapidly shifting forces of international competition. The 1970's were marked by substantial decline in private investment, especially in manufacturing; slumping construction activity, tourism and public works; and continuing retrenchment in the once dominant sugar industry. The economy of Puerto Rico is characterized by the following:

- o Cyclical recession in the U.S. has a magnified impact in Puerto Rico.
- o Poverty remains a significant problem for Puerto Rico. Although well off by Caribbean standards, it is still poor in comparison to the U.S.
- o Two areas stand out as playing a proportionately expanded role in the Puerto Rican economy; public sector employment and the rise of Federal transfer payments.
- o Federal transfer payments to Puerto Ricans are nearly 25 percent lower in dollar terms per person than Federal transfers to mainland residents (\$681 and \$890 in 1979).
- o The importance of the Food Stamp Program (FSP) and its successor Nutrition Assistance Program (NAP) are much greater than on the U.S. mainland.

The key dimension of the direct economic impact of both food programs, FSP and NAP, is their effect on the food consumption spending of participating households. All their other broader economic and nutritional impacts stem from this first fundamental effect in increasing participants' purchase and consumption of food. Most of the effects described in this chapter were aimed to estimate the likely size of this effect. The results are complicated and also have limited precision. The state of the art in this field, and data resources to draw from, are lacking in many respects.

The principal findings of the chapter may be listed as follows:

- o The transition to NAP has reduced total food program benefits by an estimated \$186 million in Fiscal Year 1983, a 19.4 percent reduction from projected FSP benefit levels.
- o The reduction in total benefits has been absorbed largely through a reduction in participating households (down by 10 percent) and not through a reduction in benefits to households still participating (down only 2 percent on average compared to 1982 FSP levels).
- o The difference between FSP and NAP in their respective impacts on the food-at-home consumption spending of Puerto Rican households is highly problematical. The estimated range for the difference in overall effect on food spending is from \$19 million to \$239 million in 1983, or from 0.7 to 8.4 percent of total Puerto Rican food consumption.
- o The overall effect on food spending resulting from the transition (estimated range \$19 - \$239 million) can be viewed as consisting of two separate effects (although in fact they are operating together): first, the benefit reduction effect from projected FSP levels and second, the "cashout effect" from transforming the form of benefit payment.
- o The estimated range for the benefit reduction effect is from \$19 to \$61 million. The estimated range for the cashout effect is from 0 to \$177 million.
- o The range of uncertainty in the estimates of overall transition effects (\$220 million) is attributable about one-fifth to the uncertainty as to benefit reduction effect and about four-fifths (\$177 million) to the uncertainty as to cashout effect.
- o The upper range of estimate for cashout effect (\$177 million) probably is too high. There are several indications to this effect. In fact, the cashout effect may be negligible or even zero. There is some independent evidence consistent with this possibility.
- o Estimates derived independently from aggregate time series data on food and



### Overview of the Puerto Rican Economy

Prior to the 1950's, Puerto Rico's economy was largely based on agriculture. The island's industrial development was, by and large, limited to supporting agricultural products, mainly sugar, coffee and tobacco.

Beginning in the late 1940's and escalating in the following decade, however, Puerto Rico began a massive economic development self-help program known as Operation Bootstrap. Operation Bootstrap was notably successful in attracting, through extensive tax exemptions and other incentives, U.S. investment to Puerto Rico, promoting such industries as apparel and textiles, chemicals, pharmaceuticals, electronics and machinery.

Despite this success, however, poverty remains widespread in Puerto Rico. Although the Commonwealth appears well-off as compared to its Caribbean neighbors, it is still quite poor in comparison to the U.S. Per capita personal income in Puerto Rico, for example is only about 40 percent of U.S. per capita income. In 1975, approximately 57 percent of all families in Puerto Rico had incomes below the federally defined poverty level. One recent survey indicates that 3.7 percent of the population had no reported income of any kind.<sup>2/</sup>

Contributing to the dimensions of poverty in Puerto Rico has been a steadily worsening unemployment problem throughout the decade of the 1970's. The island's economy and labor force are closely linked to the U.S., and lagging economic activity here has had a magnified impact on Puerto Rico. The Puerto Rican unemployment rate was just about twice that prevailing on the mainland during the 1970's, and in recent years the gap has widened further. Limited job opportunities on the island have been coupled with an increased rate of reverse migration of jobless young adults back to Puerto Rico from the U.S. By July 1982 the unemployment rate for Puerto Rico stood at 24.6 percent, approaching to the worst of 1930's levels for the U.S.<sup>3/</sup>

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<sup>2/</sup>Chai, J.C.; Teitelbaum, Joel; Horowitz, Grace: An Analysis of the 1977 Puerto Rican Food Consumption Survey With Emphasis on the Effects of Food Programs, Economic Analysis Staff, FNS, USDA, April 1982.

<sup>3/</sup>Preliminary estimate for July 1982, Puerto Rico Department of Labor & Human Resources.

While the net flow of migrants back to the island compounded Commonwealth economic difficulties, a number of other sources contributed more directly. The period of the seventies was marked by a substantial reduction of private investment in the manufacturing sector, reflecting U.S. recession and growing foreign competition. The important Puerto Rican tourist industry was similarly adversely affected, while construction activity slumped, public works spending slowed, and the previously dominant sugarcane cultivation and processing sectors experienced continuing retrenchment.

These various factors are reflected in the lagging growth of Puerto Rican Gross National Product in comparison to U.S. GNP. From Fiscal Year 1970 through 1981, nominal GNP increased 251 percent in Puerto Rico (from \$4,688 billion to \$11.771 billion) and 301 percent in the U.S. (from \$992.7 billion to \$2,992.2 billion).<sup>4/</sup> Puerto Rico's GNP amounted to 0.47 percent of U.S. GNP in the earlier year and only 0.39 percent of U.S. GNP by 1981. Price indexes for the two economies moved similarly over the period, so the difference between their rates of real economic growth was approximately the same as shown by these nominal growth comparisons.

In the face of the generally difficult, and in many respects worsening, economic conditions for Puerto Rico over the past decade, two major areas stand out as playing a proportionately expanded role in the island's economy. One of these is public sector employment, the only major sector showing sustained growth during the recessionary episodes of the period. By Fiscal Year 1981, public administration employed some 203 thousand persons, or nearly one quarter of Puerto Rico's total employment.

The second area which served importantly to sustain the Puerto Rican economy during this period was the substantial expansion of Federal income transfers to the island. From a level of \$303 million in Fiscal Year 1970, total Federal transfers to Puerto Rico rose to \$2,666 billion by Fiscal Year 1981, an increase of 880 percent in nominal terms.

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<sup>4/</sup> Informe Economico al Gobernador, 1981, Junta De Planificacion De Puerto Rico, February, 1982. All of the Puerto Rican economic data reported in this section, as well as the Fiscal Year 1970-1981 comparisons of Puerto Rican and U.S. data, are taken from this source, if not otherwise noted.

As a proportion of total personal income in Puerto Rico, Federal transfers grew from 7.3 percent in 1970 to 21.1 percent by 1981. The significance of these transfer payments for the Puerto Rican economy also can be gauged by comparing their magnitude with the island's GNP, \$11.771 billion in 1981. That is, the amount of these transfers was equivalent to 22.6 percent of Puerto Rico's GNP in 1981.

The major part of the rapid increase in Federal income transfers to Puerto Rico is attributable to the growth of Social Security Old Age, Survivors and Disability Insurance (OASDI) benefits. These grew from \$174.0 million in Fiscal Year 1970 to \$1,275.5 million in 1981, a 733 percent nominal increase.

The second largest component of Federal income transfers to Puerto Rico consists of the bonus value of food stamps. These grew from \$281 million in Fiscal Year 1975, their first year, to \$860 million in 1981. By 1981, OASDI payments accounted for 47 percent of total Federal transfers to Puerto Rico, while food stamp bonus value amounted to 31 percent. The remaining 22 percent was accounted for by veterans' benefits (8 percent), Medicare payments (5 percent), direct subsidies to industry (2 percent), and 7 percent to U.S. civil service and military retirement, rent subsidies, and grants to private institutions and State government.

It should be noted that despite the very great relative importance of Federal income transfers for Puerto Ricans, and for the Puerto Rican economy, the actual per capita dollar amount of such payments is considerably lower in Puerto Rico than in the U.S. These were calculated for 1979 as amounting to \$681 and \$890 per capita, respectively, for Puerto Rico and the U.S.<sup>5/</sup>

This seeming incongruity is owing primarily to the fact that per capita GNP and personal income levels are so much lower in Puerto Rico than in the U.S. - the smaller dollar amount of transfers per capita there simply bulks much larger in relative terms (and

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<sup>5/</sup> Famadas, Nelson: Puerto Rico's Economic Future, Presentation to the White House Task Force on Puerto Rico, Table 5 (President, Governor's Financial and Economic Council).

correspondingly, in relative economic importance). Secondary reasons for the lower per capita dollar amount of transfers to Puerto Ricans are that some major U.S. transfer ) and that the age structure of the Puerto Rican population is considerably younger on average.

#### The Effect of Food Assistance on Household Expenditure Patterns - Considerations From Economic Theory and Research Findings

The goal of both the FSP and NAP is to provide nutrition assistance by means of increasing recipients' food purchasing power. It is therefore important to determine the effect on recipient's expenditures for food resulting from changes in the form and amount of these benefit payments. In this section economic theory and research findings are used to compare the effects on household food consumption expenditures of nutrition assistance in the forms of cash and food coupons.

Household food consumption expenditures reflect a balance between dietary need, personal preferences, socioeconomic expectations, available financial resources, and needs or desires for non-food items (e.g., shelter, clothing, energy). By increasing the resources available to the household, food assistance is intended to increase the dollar value of the food purchases and consumption of recipient households.

Household consumption theory indicates that food coupons may affect household expenditures in two ways. First, households can use the coupons to increase their food purchases over pre-assistance levels. Alternatively, the coupons can free some household cash resources previously spent on food. These resources can then be used to increase purchases of other, non-food items. This displacement of previous cash expenditures for food with coupon expenditures is called "substitution."

Typically, both effects will operate at once, whatever the form in which the benefit is received. The normal recipient family will use its food benefit to increase its level of food spending, but by less than the full value of coupons (or cash benefit) received. The remaining coupon value (if that is the form used), although itself used directly for food purchase, has the indirect effect of allowing an equivalent reduction in the family's cash

expenditure for food. It simply will substitute for some part of the family's income normally allocated to food purchase. (In the case of a cash benefit, the family simply allocates directly a part of the benefit to increased food purchase and part to other consumption uses.)

The net outcome of these two effects determines the overall impact of the benefit received on each participating household's food (and non-food) expenditures. The technical measurement of this combined or net effect on food spending is known as the household's "marginal propensity to consume" additional food (MPC for food) out of its increased purchasing power. That is, MPC for food measures the amount of increase (or decrease) in household food spending associated with a change in household income, from any source, as a proportion or percentage of the increase (or decrease) in income. For example, if the household's net increase in food expenditure is 35 cents out of each dollar of additional income or benefit received, its MPC for food has a value of 0.35.

At the theoretical extremes, a household's MPC for food could equal a maximum value of 1.0 if it used its increased purchasing power exclusively for increased food consumption. At the other extreme, its MPC for food could equal zero if it used the entire value of its assistance benefit for increased non-food consumption expenditure—directly, if the benefit is in cash form, or indirectly through substitution if it is in coupon form.

It is quite unlikely that either of these extreme values of MPC for food (1.0 or zero) are ever observed in practice, at least over wide ranges of income. Both are far removed from the normal consumption behavior of households, at all income levels, reliably documented through extensive empirical research. However, variation is expected among individual household's MPC values, and some tendency is observed for very low-income households to have larger MPCs for food than higher-income households. (The need for food is, in a sense, more urgent than other consumption needs, even for other necessities. At very low incomes—when family members are in fact hungry—any increased income may go preponderantly for additional food: i.e., MPC for food may approach its upper limit. For higher income households, spending on additional food out of increased income is much less urgent and more competitive with other needs and desires. For very high-income households, MPC for food may approach its lower limit.)

The overall impact of any food assistance program on the total or aggregate food spending of its participants will depend on the overall extent to which substitution of food benefits for cash resources otherwise spent on food takes place. The resulting aggregate net effect for food consumption spending is measured by the average value of MPCs for food across the entire group of recipient households. This is a magnitude that can be estimated statistically from sample data on household incomes, benefits, and consumption spending patterns. In general, the poorer the overall sample of households observed, the higher their average MPC value for food can be expected to be (the less the overall substitution expected) and the greater the overall effect on food consumption spending of any change in income or benefits. Over most ranges of U.S. household incomes this shift in MPCs for food is slight,<sup>6/</sup> but the comparison of U.S. and Puerto Rican average MPC values should show some variation.

Use of MPC to Compare Program Effects. The derivation of marginal propensities to consume food is a complex exercise. Ideally in order to ascertain any difference in food expenditures due to a cash versus in-kind (coupon) benefit, an experiment should be conducted so a direct comparison can be made between comparable groups one that receives no benefits, one that receives coupons only and one that receives cash only. Unfortunately this has not been done in Puerto Rico. Thus the only way to estimate these MPCs is through simulations using data from one point in time. This section will summarize recent research and simulations on this topic. The next section will discuss important limitations to these estimates. In summary, the analysis presented in this chapter will provide the reader with ranges of potential effects based on the two key NAP changes: a reduction in benefit levels and the provision of cash rather than coupons. The ranges indicate that there may not be any cashout effect or that there may be a substantial cashout effect and that there will be some benefit reduction effect.

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<sup>6/</sup> Most statistical estimations of MPC for food have utilized linear estimating models which mask this effect altogether - by assumption, MPC is constant across income levels in such models. Also, the MPC concept is frequently confused with "APC", the "average propensity to consume" food out of total income. APC is more familiarly known as the "share of food expenditure" out of household income or total consumption expenditure. In contrast to MPCs for food at different income levels (which are broadly stable), APC for food declines markedly and consistently as household income rises. the regularity of this relationship is so pronounced that it has been known for more than a century as "Engel's Law", after the Swiss economist Ernst Engel, whose early consumption studies beginning in 1857 gave it great emphasis.

Probably the most important aspect of using MPC estimation for comparing the effects of FSP and NAP programs on Puerto Rican food consumption is, that research findings usually show that there is a difference in the value of MPC for food depending on the form in which benefits are provided.<sup>7/</sup> The average MPC for food out of a dollar's worth of benefits received as food stamp bonus has been estimated variously at anywhere from two to five times as great as the MPC for food out of an additional dollar of regular cash income.<sup>8/</sup> However, not all studies have shown this difference, and technical problems with estimation may make specific estimates invalid.

Recent research based on the Puerto Rico sample of the 1977-78 Nationwide Food Consumption Survey (NFCS) has produced detailed estimates for the first time of the MPC values for food out of cash incomes and food stamp bonus values among Puerto Rican FSP participants and eligible but nonparticipating households.<sup>9/</sup> These estimates of MPCs for food among low-income Puerto Rican households show an FSP effect on expenditures for food-at-home consumption approximately three times as great as the marginal effect on food expenditure of equivalent cash incomes among statistically matched household groups during the 1977-78 period.<sup>10</sup>

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<sup>7/</sup> See for example, L. Salathe: "The Impact of the Food Stamp Program on Food Purchases by Low Income Households". USDA, Economic Research Service, 1980, and D. West: "Effects of the Food Stamp Program on Food Expenditures". Washington State University, 1979.

<sup>8/</sup> The most refined current estimates of MPCs for food among U.S. food stamp participating households and eligible but nonparticipating households, derived from the 1977-78 Low-Income Sample of the USDA Nationwide Food Consumption Survey, show an MPC for food-at-home consumption out of food stamp bonus value of .24 and from equivalent cash income of .09. See David Smallwood and James Blaylock: "Analysis of Food Stamp Program Participation and Food Expenditures", USDA, Economic Research Service, February, 1983 (forthcoming).

<sup>9/</sup> Laura Blanciforti, National Economics Division, USDA Economic Research Service: "Food Stamp Program Effects in Puerto Rico," ERS Staff Report, February, 1983.

<sup>10/</sup> The estimated values are .33 and .10; see Blanciforti, op. cit., pp. 30-33.

The implication of this finding, if taken at face value, is that benefit dollars distributed as cash payments rather than food coupons may be expected to generate only one-third as much impact on household food consumption, over pre-assistance levels. Similarly, the Smallwood-Blaylock findings from the U.S. data imply a much greater effect on food consumption spending from food coupons than from cash benefits. These findings are similar to several other empirical studies which have shown a differential effect on food spending between food coupons and cash income.

If it is true that food coupons and cash income effect food spending differently, changing the form of benefit from food coupons to cash (i.e., "cashing out" the Food Stamp Program) may lead to lower food consumption. Expectations of a significant "cash-out effect" in lowered food expenditures from a given benefit level depend, at least implicitly, on this particular inference.

In the next section, we present numerical estimates for the FSP-NAP transition effect based on these recent MPC estimates. However, there are a host of serious reservations in using them with this interpretation.

First, the statistical results themselves may not in fact be providing accurate estimates of the differential MPC values. There are technical limitations on this type of estimation which may actually invalidate the results obtained. What has been interpreted as different effects on food spending, out of coupons or cash, for the same population may actually be reflecting an (otherwise unverifiable) critical difference between subpopulations, of program participants and eligible nonparticipants, in their relative preference for food over non-food consumption.

Second, the traditional economic theory applied in this area (consumer utility theory) provides no support or explanation for the substantial differential effects between coupons and cash that frequently have been found. To the contrary, the chief prediction from the theory, as traditionally applied, is that for the large majority of food stamp households there will be no such differential effect.<sup>11/</sup>

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<sup>11/</sup> Smallwood and Blaylock, op. cit., provide a good discussion.



Third, perhaps the only recent research paper to find a complete absence of differential effects predicted by the theory<sup>12/</sup> also advances a technical argument indicating that the various estimating equations yielding the apparent differential results (including earlier estimates by the same authors) have been consistently incorrectly specified. It is too soon to know if this fundamental critique is valid, but if it does prove so, the apparent differential effect in virtually all the earlier estimates may indeed be illusory.

Finally, and perhaps most important: even if the statistical results on MPCs for food—derived from a given population at a given point in time—are themselves valid and accurate, they are essentially static in character. The usual inference noted above, that they will be equally valid for predicting the changing behavior that will result in the dynamic situation of a population experiencing an important change in circumstances over time, may be quite unfounded.

In developing the estimates presented below, we have been particularly sensitive to this possibility. Specifically, in estimating the current behavior of NAP recipients, it is not sufficient to assume that the NAP benefit, since it is paid in cash, will be allocated between food and non-food spending in the same manner as cash income was within the previous FSP context. Nor is there any basis for assuming the opposite: that the NAP benefit necessarily will be allocated between food and non-food in the same proportions as the previous coupon benefit.

Traditional utility theory provides no guidance here, and neither do the previous empirical results. Either alternative is possible—a plausible case can be made for each. Consequently, the conservative estimating approach is to develop numerical estimates on the basis of both assumptions and then compare their implications. This is the procedure followed in the present report.

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<sup>12/</sup>D. Franklin, M. Demousis and M. Harrel: Income Effect of Title II Commodities in Rural Panama, draft report to Office of Program, Policy & Evaluation, Bureau of Food for Peace and Voluntary Assistance, U.S. AID, September 1982.

The two separate estimates may be regarded as specifying a reasonable range of likely effect on household food spending resulting from the shift from coupon to cash benefit. It also is likely that, if household spending behavior does in fact change with the cash grant, such a shift occurs gradually rather than all at once. In that case, the assumption that households use their NAP benefit checks just as they would food coupons may be accurate initially, while the assumption that NAP benefits affect spending just as any other cash income would may accurately indicate the longer-run situation.

#### Effects of the FSP-NAP Transition on Food Consumption in Puerto Rico

In the absence of directly appropriate information on changed household spending patterns resulting from the FSP-NAP transition, a number of problems concerning the more indirect estimation of its effects must be addressed. The most problematical concern the validity and applicability of the MPC estimates that are available, as discussed above. If the available MPC estimates are accepted as valid and applicable, the estimation of food program impacts under either FSP or NAP separately is straightforward. The appropriate average MPC value for the participant population is multiplied times the aggregate level of program benefits (or change in level of benefits) to determine the volume of additional food spending directly attributable to the benefits (or change in benefits).

Another kind of complication arises, however, in identifying clearly the differences in food spending effect between the FSP and NAP programs. This is due to the fact that the introduction of NAP involved two distinct kinds of change at once: the reduction in total benefits from the level experienced under the FSP on the one hand and the replacement of food coupons with cash benefits on the other. The estimation procedure used attempts to separate the effects of these two changes, the straight forward benefit-reduction effect and the so-called "cash-out" effect. However, this is one more layer of complexity, and the rather simple method employed may not in fact adequately distinguish the two effects.

The effects estimated in this chapter are expected effects for Fiscal Year 1983. If Puerto Rico had remained in the FSP, the most recent cost projections (employing January 1983 OMB economic indicators) suggest that a total of \$957 million in benefits



There is nevertheless a range of uncertainty as to the most appropriate MPC value to use in assessing the overall effect of food stamp benefits on household food spending.

Consequently, an alternative MPC value of .10 also was used for this estimation of FSP effects.<sup>14/</sup> The result provides an estimated range for the likely effect on participating households' spending for food-at-home consumption, if the FSP had continued unchanged, of \$96 to \$316 million for Fiscal Year 1983.<sup>15/</sup>

2. For the NAP effect, multiply the aggregate benefit level budgeted for 1983 (\$771 million) by the appropriate  $MPC_y$  value for program participants, or an acceptable proxy (.10).<sup>16/</sup> This results in an estimated program effect on Puerto Rican food-at-home consumption spending for 1983 of \$77 million.

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<sup>14/</sup>The .10 value used here represents an estimate of  $MPC_y$  for Puerto Rican FSP participants, with income defined inclusive of cash and coupon bonus value. (This variant might be designated  $MPC_{y+c}$ .) This estimate also was derived by Blanciforti in the work cited, although not included in the ERS Staff Report.

<sup>15/</sup>This amounts to about 3.3 to 10.9 percent of the total value of recent annual food expenditures in Puerto Rico (about \$2.9 billion). Blanciforti's estimates from the 1977-78 NFCS data indicate that, for the food stamp recipient population in Puerto Rico total food-at-home expenditure rose by 14.8 percent as a result of participation in FSP. (*op. cit.*, p. 31). These results are consistent.

<sup>16/</sup>This is the  $MPC_y$  coefficient for the marginal food-at-home expenditure effect out of total income for low-income Puerto Rican households not receiving food stamps, although eligible for FSP participation. It has the same value (rounded) as the  $MPC_{y+c}$  coefficient for FSP participating households, representing the marginal food expenditure effect out of total income (cash plus bonus coupon value) for food stamp recipients. Blanciforte, *op. cit.*, Table 5. A similar consistency between the estimated values of these two MPC variants for participating and nonparticipating eligible food stamp households is found in the U.S. estimates.

3. For the overall difference in effect on food spending of the FSP and NAP programs at projected 1983 levels, these results can simply be compared directly. This indicates an estimated range of \$19 - \$239 million for the overall effect of the FSP-NAP transition, including both aspects of the changeover.

As noted above, the separate impacts of, first, the benefit-reduction effect attributable to the reduced level of total benefits accompanying the transition to NAP, and second, the "cashout" effect stemming from the replacement of food coupons by cash benefit payments under the new program, are difficult to distinguish, both conceptually and practically. The method employed was as follows.

4. For the benefit-reduction effect, first determine the difference in total annual benefits between the two programs, expressed on a common basis, (\$957 - \$771 = \$186 million<sup>17/</sup>). Then multiply this amount of benefit reduction by the appropriate MPC value for program participants. Since there is uncertainty as to just what the best MPC value may be for application in this circumstance, we estimate the effect in two ways. First, we apply the estimated MPC<sub>C</sub> value for earlier Puerto Rican FSP participants (.33) and second, we apply the MPC<sub>Y</sub> value estimated for eligible low-income Puerto Rican households not receiving food stamps (.10), in lieu of direct knowledge of the actual MPC value for NAP participants. This procedure produces a range for the estimated benefit-reduction effect at 1983 program levels of \$19-61 million.
5. For the "cash-out" effect, multiply the current annual NAP benefit (budgeted for 1983 at \$771 million) by the difference between MPC<sub>C</sub> and MPC<sub>Y</sub> for the participant population (.33 - .10 = .23).

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<sup>17/</sup> Both program levels were expressed in projected 1983 values. For some purposes, the slightly smaller actual FSP level just prior to NAP would be useful, but would introduce extraneous elements into the straight program comparison.

Here again, there is no certainty as to the most appropriate MPC values to use, especially for the MPC among NAP participants. In order to estimate reliably the effects of cashout under the NAP conversion we would have to know how recipients spend their NAP checks. The assumption that they use their checks as they do cash income gives a very different estimate of NAP impact compared with the assumption that they use their NAP checks as they previously used food stamp coupons.

If NAP recipients use their checks as cash, the Blanciforti values for MPCs discussed above (.33 and .10) give the very high estimate of \$177 million reduction<sup>18/</sup> in food purchases for NAP recipients. If, on the other hand recipients use the NAP checks just as they had used coupons, there was in fact no cashout effect from NAP (.33 - .33 = 0). Under this assumption changing the form of the benefit did not reduce food purchases. An estimate of no cashout impact is consistent with the finding from Chapter IV. Our study from the retail sector found that a very large majority of NAP recipients cash their checks in grocery stores. The survey also found that the large number of recipients reported no change in food expenditure behavior and no reduction in food purchases. A finding that there was no cashout effect is also consistent with the results of the Food Stamp SSI/Elderly Demonstration Evaluation which concluded that there was no significant difference in MPCs for cash and coupons among project participants.

The ranges of estimated effects on food spending resulting from the transition to NAP are summarized in Table VII-1

The difference in overall program effect on food spending between the FSP and NAP is estimated to range from \$19 million to \$239 million at 1983 levels. This is a wide range of uncertainty, amounting to the difference between about 0.6 percent and 8.2 percent of total food spending in Puerto Rico (\$2.856 billion in fiscal year 1981).

The wide variation in these estimates of possible impact stems from our lack of reliable knowledge in two areas. First is the effect on food spending of the Puerto Rican FSP as

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<sup>18/</sup> $(.33 - .10) \times \$771 \text{ million} = \$177 \text{ million}.$

Table VII-1

Estimated Impacts on Food-at-Home Consumption Spending  
of Food Stamp Program, Nutrition Assistance Program,  
and FSP-NAP Transition Effects

Type of Effect	Estimated Range (millions)	Range of Uncertainty (millions)
<u>Overall Program Effects:</u>		
1. FSP	\$96 - 316	\$220
2. NAP	\$77	
Difference in Overall Effect (FSP - NAP effects)	\$19 - 239	\$220
<u>Separate Aspects of Transition:</u>		
3. Benefit Reduction (BR) Effect	\$19 - 61	\$ 42
4. Cashout (CO) Effect of Transition	\$ 0 - 177	\$177
Combined Effects of Transition (BR + CO effects)	\$19 - 239	\$220

Source: FNS 1983 Evaluation of Nutrition Assistance Program.  
Fiscal Year 1983 basis.

it existed prior to the change, and of the major benefit reduction from FSP levels that occurred incident to the change. In each case, we are unsure of the most appropriate specific MPC for tracking these food stamp related effects.

Second is the size of the potential cashout effect of the transition to NAP proper: if the NAP benefit is used essentially as cash, the cashout effect could be very large; if it is used very much as food stamps were, the cashout effect could be very slight or even zero.

The range of uncertainty in the overall, or combined, effect amounts to \$220 million (a difference of 7.6 percent of total Puerto Rican food spending). Of this overall range of uncertainty, about one-fifth (\$42 million) is attributable to the uncertainty over the spending effect of food stamps and about four-fifths (\$177 million) to the uncertainty as to the specific cashout effect.

As noted, there are some indirect grounds for believing that the cashout effect as such may in fact be small. An FNS demonstration project designed to examine ways to better meet needs of the elderly in the Food Stamp Program was conducted in 1980-81 in eight states of the U.S. Households whose members were all 65 or older and/or participated in the Supplemental Security Income (SSI) Program received cash food stamp benefits in the form of checks rather than in the form of food coupons. The impacts of benefits on food expenditures were not significantly lower than in the comparison sites.<sup>19/</sup> If the cashout effect of NAP is small, then the overall effect of the transition should be much closer to the lower end of the range given. For example, the upper range of cashout estimate here implies that NAP recipients have substantially altered their food consumption habits in a brief period of time, due simply to the change in form of benefit payment. The literature on food consumption suggests that food purchase habits change more slowly and over a longer period of time.

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<sup>19/</sup>USDA, Food and Nutrition Service, Food STamp SSI/Elderly Cashout Demonstration Evaluation, June, 1982.



Another independent source of information strongly suggests the presence of a very weak or negligible cashout effect occurring within the Puerto Rican economy in the six months following the introduction of NAP. The Puerto Rico Commerce Department monthly survey of retail sales by type of establishment shows the relative trend between food and non-food retail sales moving in the opposite direction from what would be predicted from the cashout effect. Table VII- 2 shows the relevant data.

The meaning of the cashout effect is that consumers shift their relative spending patterns away from food and to non-food items. According to these Commerce Department figures, exactly the opposite happened over this period in Puerto Rico: While supermarket and food store sales increased in five out of six months compared to the year previous. Total retail sales and major categories of non-food retail sales actually declined in each month compared to the year previous. A relative shift between food and non-food spending was occurring, but in the direction of relatively greater food spending compared to non-food, rather than less, the opposite of the cashout effect.

It is not known what economic forces were causing this unusual relative shift in consumer spending patterns away from that predicted by the cashout effect, but at the least the indication is that the cashout effect if any, was not a very strong one.

The extreme range of the cashout effect estimated using Blanciforti's values for MPC out of food stamps and cash respectively (.33 and .10) suggests that the  $MPC_C$  estimate of .33 may be too high. For example, Smallwood and Blaylock's recent estimates of U.S. MPC out of food stamp benefits are in the range of .24 to .30, and Allen and Gadson's estimate of  $MPC_C$  also was .24.<sup>20/</sup>

If the .33 estimate is too high and a somewhat lower  $MPC_C$  for Puerto Rico would be more realistic, the upper limit of the estimated ranges, both for the benefit reduction

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<sup>20/</sup> Allen, Joyce and Kenneth Gadson, "Nutritent Consumption Patterns of Low Income Households: A Comparison by Urbanization and Region. USDA, Economic Research Service, 1982.

Table VII- 2

Percentage Change in Value of Retail Sales  
1982 in Comparison to Same Month 1981  
(current dollars)

	July	August	September	October	November	December
TOTAL RETAIL SALES	-3.94	-9.68	-6.60	-8.13	-5.14	-5.95
Supermarket and Food Stores	10.64	4.17	9.36	-2.34	1.74	3.55
General Merchandise Stores	-4.74	-12.72	-13.20	-9.02	-1.63	-1.79
Department Stores	-5.36	-14.07	-15.28	-10.48	-4.96	-2.79

Source: Monthly retail sales survey of the Puerto Rico Commerce Department.  
The three largest categories of stores are shown.

effect, and for the cashout effect would be lowered. The adjustment would be proportionately greatest for the cashout upper limit estimate, thus reducing the very large range of uncertainty found for cashout using the Blanciforti values.

Another type of evidence altogether from aggregate time series data on food expenditures and food stamp benefit amounts also can be used to produce very approximate estimates of the marginal effect of food stamp benefits on food expenditures. These estimates too appear to fall within the range of values of the average household MPCs derived from micro data, which provides some further indirect confirmation of the microlevel estimates.

The macrolevel estimates were computed using per capita real values (1954 dollars) for food expenditures and food stamp benefits. They were computed for the five years prior to the introduction of the FSP in Puerto Rico and for the seven years following its introduction but prior to NAP. The average per capita real figures (using the entire population of Puerto Rico) are as follows:

	<u>Food Expenditures</u>	<u>FS Benefits</u>
1970-74	\$219.8	\$0
1975-81	\$239.7	\$66.9

The estimated marginal effect of food stamp benefits on food expenditures is given by  $FE/FSB = 199/66.9 = .30$ .

This estimation procedure may be criticized on two grounds: it does not account for the food distribution program which was in effect through 1975, and it does not control for other variables such as GNP which may affect food expenditures. Data limitations prevent us from addressing the second problem. The first problem can be partially resolved by adding the value of the distributed commodities to food expenditures and recomputing the food stamp effect:

	<u>Food Expenditures + Value of Distributed Food</u>	<u>FS Benefits</u>
1970-74	\$228.8	\$0
1975-81	\$240.4	\$66.9

Using these numbers, the estimated marginal effect of food stamp benefits on food expenditures is  $11.6/66.9 = .17$ .

The food distribution program depressed food expenditures during the pre-FSP period. An estimation procedure which fails to account for this, such as the first procedure above, produces positively biased estimates of the marginal effect of food stamp benefits on food expenditures. The second estimation procedure is based on the implicit assumption that beneficiaries of the food distribution program would have fully replaced the distributed food through purchases if it had not been available. This may not have been the case. They may have only replaced a portion of those commodities. If so, then the second procedure above produces negatively biased estimates. We conclude that the best estimate from the available macro data of the marginal effect on food expenditures of food stamp benefits is somewhere between .17 and .30.

#### Flow of Economic Impacts of Food Assistance Programs at the Aggregate (Macro) Level

This section outlines the flow of economic impacts throughout all sectors of the economy including the marketing and agriculture sector and the length of time needed before these impacts are felt. Figure VII-1 shows the flow and direction of the NAP economic impacts from the household level (micro) to the aggregate (macro) level.

The goal of both the FSP and NAP is to increase food expenditures by increasing the recipient's food purchasing power. Initially, an implementation of a new food assistance program or changes in program provisions would directly affect program participants' purchasing power and their choices of spending for food and non-food consumption items. Changes in the participant's food and non-food purchasing patterns are then transmitted to retail food and non-food sectors.

The effect of NAP on food retailers as the result of changes in expenditure patterns is then transmitted in sequence to wholesalers, importers and finally producers. These ripple effects are usually accompanied by various time lags depending upon the type of commodity and the general size of the market. The flow through time from dock to retailers averages about four months. The agricultural sector would be the last to feel

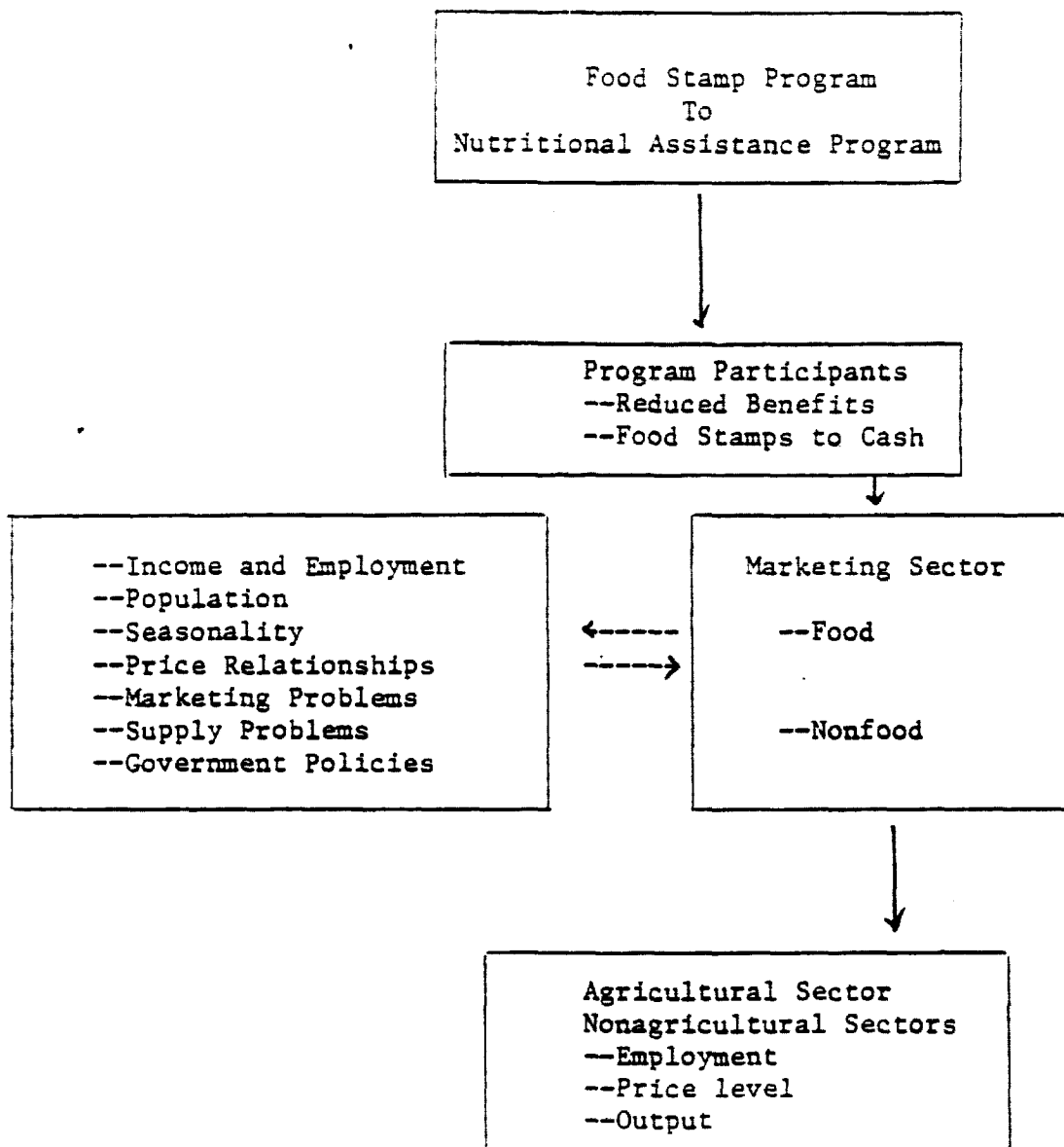


Figure 1. Economic impact flow chart.

any effects. In fact, observable impacts in terms of production would not be noticed until the end of the next production cycle, perhaps as early as Spring 1983 for local vegetable production, and 1984 or even later for local crops and livestock production.

The economic ripple effects initiated by an increase or decrease in spending as the result of a food assistance program change would also affect non-food and public administration sectors in terms of price, employment and income. A precise measurement of the ultimate increase in income caused by an original increase in spending (income multiplier) cannot be provided, although for illustrative purposes a rough approximation can be made using the 1.4 income multiplier calculated by the Puerto Rican Planning Board. This multiplier means that each dollar injected into the economy moves from sector to sector and its cumulative effect, when summed across all sectors, is the equivalent of a \$1.40 increase in income. Conversely, the withdrawal of a dollar from the economy does not reduce total income by \$1.00 but, through the interaction of all sectors, by \$1.40.

Figure VII-1 also shows that many other factors in addition to food assistance program changes influence the patterns of consumer demand. For example, a larger population, either through real growth, in-migration or tourism, creates a larger market. Consumer demand shows seasonal patterns which are best exemplified by the proportionately larger December retail sales figures. A supply shortage created by such factors as weather conditions, dock strikes, or Government price controls can also effect purchasing patterns. Many of these factors work simultaneously with consumer demand. Thus, consumer demand as seen at the retail level is the end result of the simultaneous interplay of many factors in the market place.

#### Estimated Economic Effects of the FSP in Puerto Rico and Expected Impacts of NAP

Reviewing the introduction of the FSP into the Commonwealth can contribute information on the magnitude and timing of its effects. In 1974 the FSP replaced the Family Food Distribution Program in Puerto Rico and made two significant changes. First, the form of the benefit changed from direct commodity distribution to coupons. Second, the magnitude of the FSP was far greater than the former Commodity Distribution Program. The first full year of the FSP (Fiscal Year 1976) represented more than a seven-fold increase in the amount of benefits in real dollars from the last full year of operation (Fiscal Year 1974) of the Commodity Distribution Program (See Table VII-

3). During its last year of operation, the Commodity Program represented approximately 4 percent of total food expenditures in Puerto Rico while the FSP in Fiscal Year 1976 represented almost 27 percent of all food expenditures. More recently, the FSP has constituted approximately 30 percent of all dollars spent on food in the Commonwealth.

The economic effects that result from food assistance program changes have varying degrees of impact on food consumption expenditures, the marketing sector, the agricultural sector, and GNP, employment and prices. As mentioned earlier the time lags vary for the economic ripple effect to travel from the individual household (micro) level to various sectors of the national economy (macro), the length of time depending on the sector and type of commodity under consideration. It should be recalled throughout this section that the magnitude of any changes due to the FSP were brought about by a 740 percent increase in nutrition assistance following the implementation of that program. By contrast, the reduction due to NAP in terms of projected benefit levels if Puerto Rico had remained in the FSP during Fiscal Year 1983 and the expected benefit levels to be paid out in this Fiscal Year amounts to a 19.4 percent reduction. This reduction in transfer payments is very small compared with the enormous increase in transfers due to the introduction of the FSP. Consequently, the impacts of the NAP benefit reduction will be much smaller than the effects of the introduction of the FSP in any particular sector.

FSP Effects on Food Expenditures. Due to the very low average income in Puerto Rico, the ratio between food expenditures (including the food stamp benefit) and income is very high. Based on data from the 1977-1978 Nationwide Food Consumption Survey, the average U.S. household spent 15 percent of total income for food. In contrast, the average household in Puerto Rico spent 61 percent of total income on food purchases, and the average food stamp household in Puerto Rico spent 125 percent of its income on food. This anomalous situation arises because food stamp recipients in Puerto Rico are very poor and for the average food stamp household, the value of food stamp coupon allotment received exceeded the value of their cash income.<sup>21/</sup>

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<sup>21/</sup> It should be noted that in the 1977-78 program, prior to elimination of purchase requirement, the coupon allotment was considerably larger than the "bonus value", or net benefit, received by most households.

Table VII- 3

Family Food Assistance Programs, Puerto Rico  
Fiscal Year 1979 - 1982

Fiscal Year	Family Food Distribution Program		Food Stamp Program	
	Participation	Cost (millions)	Participation	Cost (millions)
1970	533,726	\$32,370		
1971	568,470	38,000		
1972	537,555	42,630		
1973	557,328	55,040		
1974	579,677	58,780		
1975	557,275	32,440	375,464	\$261.010
1976			1,672,286	541.137
1977			1,618,790	608.895
1978			1,582,405	692.898
1979			1,816,280	747.895
1980			1,854,987	826.675
1981			1,800,000	879.116
1982			1,809,900 <sup>1/</sup>	895.910 <sup>1/</sup>

Source: Food and Nutrition Service, USDA.

<sup>1/</sup> July 1981 to June 1982, annual basis.



Table VII-4 presents a comparison of aggregate time-series data, expressed in real per-capita terms for GNP, consumption expenditure and FSP benefit. These series are adjusted for price and population changes over the period 1970-1981. By 1978, the value of food stamp benefits constituted 30 percent of all food expenditures in Puerto Rico. Per capita food expenditures grew by 130 percent over the first five years of the FSP compared to a total of 5.4 percent over the previous five years.

Annual food stamp benefits rose from zero in 1974 to just over \$74 per capita (1954 dollars) in 1978 and 1979, their high point. Then from 1979 to 1981, the real per capita benefit fell somewhat (7.3 percent). Over the strong growth period for real food stamp benefits, 1974-78, per capita food consumption grew by 9.6 percent, and per capita spending for alcohol and tobacco rose by only 3.0 percent. It appears that during this period the FSP was meeting its intended purpose of contributing to increased food consumption rather than being diverted by substitution to other non-food consumption.

The effect of the FSP on food expenditures also can be assessed by reviewing the effect of Food Stamp dollars at the margin rather than on average.

Estimates used in this report of marginal propensities to consume food out of an additional \$1.00 in coupons range from a low of 10 cents of every coupon dollar going to increased food expenditure to a high of 33 cents. The real value of the MPC for the pre or post EPR periods probably lies somewhere between the estimates. For the purposes of this section a range of MPC values of .20 to .33 will be employed. This implies that the FSP resulted in an increase in food expenditures of between \$111-178 million in Fiscal Year 1976. The remainder, or between \$363-430 million entered the economy as expenditures for other goods. It should be noted that this food expenditure increase is for first round effects only. As the dollars spent on both food and other goods flowed through the economy, their impact in turn generates secondary and tertiary increases in income and consumption expenditures in other sectors of the economy. In Fiscal Year 1981 the FSP resulted in an increase of food expenditures of between \$88-200 million. Again, the remainder (\$679-791) entered the economy as expenditures for other goods.

FSP Effect on the Marketing Sector. The increased expenditures made possible by the Food Stamp Program in Puerto Rico had a direct impact on the marketing sector both for food and for other goods. Past studies have not calculated the precise linkages, however,



and although the Food Stamp Program certainly increased activity in the marketing sector the effect cannot be fully quantified. The marketing sector discussed here consists of food retailers, wholesalers and importers.

Data are available from the 1972 and 1977 economic census for Puerto Rico showing the numbers of retail food establishments, the amount of sales, and the number of paid employees. Between 1972 (pre-FSP) and 1977 (FSP period), the number of retail food establishments grew from 9,943 to 12,947, a 30 percent increase; the amount of food sales rose from \$674 million to \$1,287 million, a 91 percent nominal increase; payrolls increased from \$40 million to \$73 million, an 83 percent increase, and paid employees increased from 11,583 to 15,559, a 34 percent increase. After allowing for inflation and population growth, real food sales have increased by 10 percent over the period. However, the observed 10 percent real increase in total food sales over this time period cannot be attributed exclusively to the FSP since this growth may have been caused by other factors.

Increased volume of food retail sales also affected the grocery and produce wholesale trade between the two economic periods. It should be remembered that wholesale figures include more than food, but their relative changes over the two periods may indicate the ripple effect of increased retail food sales on wholesale trade. Over the two census periods, sales increased by 82 percent, payrolls by 65 percent, and paid employees by 4 percent. The number of wholesale establishments on the other hand, declined from 500 in 1972 to 486 in 1977. This trend indicates that fewer establishments handled a larger volume of wholesale trade.

A key element to consider in analyzing the effect of the FSP on the Commonwealth is that its economy depends heavily on external resources and trade. Total imports accounted for 77 percent of the island's personal consumption expenditures of \$12,155 million in Fiscal Year 1981. And of all import categories, food imports represent the largest single outlay. Food imports have increased from \$306 million, or 36 percent of total food expenditures, in FY 1970 to \$1,130 million, or 40 percent of total food expenditures, in FY 1981 (See Table VII- 5).

Table VII-5

Merchandise Imports by Puerto Rico  
Fiscal Years 1970 - 1981

Fiscal Year	All Categories (in millions)	Food	
		Total (in millions)	Per Capita (1954 Constant Dollars)
1970	\$2,509	\$ 306	\$ 73.58
1971	2,839	375	84.47
1972	3,054	539	111.26
1973	3,470	621	121.18
1974	4,238	712	105.59
1975	5,071	787	102.52
1976	5,413	900	108.35
1977	6,089	983	115.76
1978	6,516	1,042	114.00
1979	7,377	1,144	115.81
1980	8,624	1,041	94.22
1981	9,350	1,139	91.06

Source: Informe Económico al Gobernador, 1981, Junta De Planificación De Puerto Rico, February 1982.

The analysis in the earlier section on increased food expenditures due to the FSP indicated a range of effect. For the purposes of this analysis we will use the range, a lower bound impact of \$96 million and an upper bound \$316 million for FY 1981.

This increase, however, did not flow only to Puerto Rico's domestic food market, since between 39 and 46 percent of total retail food volume is imported, mostly from the United States. Thus, the increased demand for food had an effect on two marketing sectors, that of the Commonwealth and that of the U.S.

NAP Effect on the Marketing Sector. The conversion to NAP was estimated to reduce aggregate food expenditures by 0.7 - 8.4 percent. Therefore the food marketing sector will face approximately a 1-8 percent reduction in total sales. However, this impact would be distributed more heavily on those segments of the food market that cater to NAP participants. It is expected that areas and stores which serve proportionately more NAP participants would receive a relatively heavier impact of the program change than areas or stores serving fewer NAP recipients.

The recent cyclical effect of the U.S. economy will also adversely affect the food market and the Puerto Rican economy. Even before the initiation of NAP in July 1982, the decline in real per capita GNP since 1981 was accompanied by declining real per capita total consumption expenditures as well as real per capita food consumption expenditures. Therefore, the observed negative trends over the FSP-NAP transition period with respect to food consumption expenditures and other economic variables will be the combined effect of the cyclical effect on the general economy as well as the program effect.

The estimated 1-8 reduction in food consumption expenditures would have some dampening effect on the number of retail and wholesale establishments, their total payrolls, the number of paid employees, and their profit margins. However, it is important to recall the importance of external factors on the Puerto Rican economy. The recent recession in the mainland U.S. and Puerto Rico has resulted in a large number of business bankruptcies and food store closings which may be totally unrelated to the Nutrition Assistance Program. Therefore, attributing and numerically isolating the

effect of NAP from the other effects will be difficult, especially when the expected sales reduction is relatively small. Furthermore, the number of establishments and other characteristics of the marketing sector are also influenced by innovations in marketing technologies and domestic and external business competition.

The import business will also be affected by the estimated reduction in food consumption expenditures. The share of imported food as the percent of total food consumption expenditures has continuously declined from 47 percent in fiscal 1970-74 to 39.6 percent in fiscal 1980-81. Assuming 40 percent as the current import share the food importers could lose between \$38 and \$126 million or about 3 to 11 percent of the Fiscal Year 1981 total food import values.

FSP Effect on the Agricultural Sector. This section will briefly review the long-run declining agricultural situation in Puerto Rico and then estimate the effects of the introduction of the FSP on the agricultural sector. The importance of the agricultural sector in Puerto Rico has declined as a source of employment, generator of income, and supplier of food even before the family food distribution program became important. Land in farming has declined about 19 percent over the nine year period (1969-78), and the harvested acreage by 22 percent.

Table VII-6 presents farm values (values of products at the farm level) of major products from FY 1970 to FY 1981. In current dollars, total product values as well as values for major products increased over the years.

However, when these values are translated into constant dollars, the "real" total values declined. Most of the decline is attributable to a reduction in cash crop products, particularly the sugar crop. On the other hand, values of coffee showed some increase. Values of livestock products rose slightly but remained generally constant. Some increases were indicated for dairy products, poultry, and pork but no real increase was indicated for eggs. Values of fruits and starchy vegetables also remained about the same.

As with the marketing sector, the introduction of the FSP in Puerto Rico may have had two effects: on the domestic agriculture sector and on the U.S. agriculture sector due to the large volume of imported food in the Commonwealth. Normally, the farm share of

Table VII-6

Farm Values of Major Farm Products, Puerto Rico  
Fiscal Years 1970 - 1981

Fiscal Year	Total Products	Crops		
		Total	Sugar	Coffee
		----- (in millions) -----		
1970	\$267	\$ 68	\$ 49	\$ 13
1971	287	64	36	23
1972	305	56	35	16
1973	330	59	34	18
1974	448	132	104	20
1975	468	104	84	15
1976	474	70	46	18
1977	467	55	32	18
1978	522	94	42	47
1979	540	83	41	36
1980	580	116	65	45
1981	602	100	41	52

SOURCE: Informe Economico Al Gobernador, 1981, Junta De Planificacion De Puerto Rico, February 1982.

Table VII-6 (Continued)

All	Livestock Products					Fruits	Starchy Vegetables
	Milk	Eggs	Poultry	Beef	Pork		
			\$ mill	ion			
\$134	\$69	\$13	\$12	\$21	\$12	\$ 8	\$ 24
147	71	13	14	24	16	10	29
157	80	14	14	24	17	10	32
162	80	14	15	25	17	9	34
196	99	18	20	32	21	10	38
223	117	20	21	32	24	11	43
259	136	22	23	33	31	12	50
272	146	24	24	32	33	13	47
279	143	25	25	39	41	14	52
309	153	25	34	45	41	15	54
303	159	25	39	44	31	15	60
342	187	28	43	35	32	22	61



retail values averages about 40 percent. Therefore, the effect of the FSP on the farm sector in FY 1981 would amount to between about \$40 and \$130 million.

Agricultural employment has declined both in absolute terms and as a share of total Puerto Rican employment in recent years, a trend similar to the U.S. In Fiscal Year 1970, for example, agricultural employment accounted for about 10 percent of total Puerto Rican employment. By Fiscal Year 1981, agricultural employment had declined to 5 percent of the total Puerto Rican employment.

It is possible that the introduction of the FSP, to the extent that it may have increased demand for local agricultural products, had a positive effect on agricultural sales and employment. If this is true, it would have to be interpreted as retarding the rate of the continuing decline in Puerto Rico agriculture.

NAP Effect on the Agriculture Sector. By reducing food expenditures overall, NAP may have had an adverse effect on Puerto Rican agriculture. However, it is much too early to estimate the effect of NAP on the agricultural sector. During Fiscal Year 1983, Puerto Rico will implement two agricultural stimulation projects with approximately \$22 million of the total \$825 million NAP grant. The impact of these stimulation projects cannot be estimated at this time.

FSP Effect on GNP. As discussed earlier, as a \$1.00 transfer moves throughout the Puerto Rico economy it generates more than a dollar's worth of increase in the Gross National Product (GNP). As also noted an income multiplier of 1.4 calculated by the Puerto Rico Planning Board can be used to calculate a rough estimate of the effect of the FSP on the Puerto Rico GNP. However, the applicability of the 1.4 income multiplier for the specific case of food program benefits has not been verified. Since the Commonwealth depends heavily on imports, this will tend to lower the size of the internal multiplier. On the other hand, this multiplier may be a slight underestimate because, unlike the situation in the United States, Food Stamp Program benefits are financed not by taxpayers in the Commonwealth but by taxpayers in the U.S. Therefore Puerto Rico does not suffer from the negative tax multiplier as would be the case in the U.S. or from a reduction in consumer demand as taxes are increased. Parenthetically, it should be pointed out that because of the difference in financing public expenditures, the Puerto Rican experience cannot be directly translated to the U.S. situation.

During the pre-EPR period, food stamp bonuses valued at \$575 million were paid in the average fiscal year. Assuming a 1.4 multiplier, this bonus would have generated \$805 million in income or almost 10 percent of the Puerto Rico GNP. In the years following EPR, food stamps continued to contribute approximately 10 percent of GNP (\$836 million on average annually generating an average of \$1,170 million in income). Food stamp benefits have not only provided help to recipients to increase food purchases, but also helped sustain a sagging economy. The infusion of Federal funds without matching taxation served as an economic stabilizer.

NAP Effect on GNP. During Fiscal Year 1983, it is projected that the Nutrition Assistance Program will reduce total benefit dollars by \$186 million. Again assuming a 1.4 multiplier effect, this reduction is expected to lower GNP by \$260 million, or by 2.2 percent of the Fiscal Year 1982 GNP of \$11,771 million. This drop in the GNP will be passed along in part as reduced demand for imports as well as for domestic products. The relative effect on GNP will increase over the years, at least through FY 1985 because the level of the NAP grant is frozen at \$825 million through that year.

FSP Effect on Employment. Since the introduction of the FSP in Puerto Rico increased the GNP one should expect increased job opportunities. Under a normal economic situation, employment rates and personal income move in the same direction. However, the island's dependency on imported consumer goods and the in-migration of many unemployed Puerto Ricans have created a somewhat unique employment picture. Between the Fiscal Year 1970-74 and 1975-81 periods, the number employed has actually increased from an average of 671,000 persons to 776,000 persons, while the number of unemployed also has increased from 96,000 to 170,000.

A historical review of unemployment in Puerto Rico during the seventies indicates that it is the consequence of limited job opportunities coupled with a high rate of reverse migration into the island by jobless young adults. The net inflow of migrants to the island compounded existing Commonwealth economic difficulties: a weak tourist trade due to the mainland recession, a decline in manufacturing industry due to cyclical decline and foreign competition, a slump in construction activity, a slowdown in public works,

and the continuing retrenching of the sugarcane cultivation and processing activities. The only sector that has showed sustained employment increases in Puerto Rico during these recessionary periods was public administration.

Due to the high level of imports for food and other goods there is a significant amount of leakage of dollars floating out of the Puerto Rican economy to pay for imports. The vast majority of this leakage flows to the United States where it generates jobs in the U.S. labor market.

NAP Effect on Employment. It is expected that some jobs may be lost as the result of the transition from FSP to NAP. However, it is not possible to quantify this effect at this time. This reduction in employment should be distributed among public administration, retail and wholesale, agriculture, and other economic sectors of the island.

FSP and NAP Effect on Prices. The potential for any effect of food assistance program on price changes is heavily affected by the close relationship between the U.S. and the Commonwealth. Puerto Rico constitutes a relatively small market operating in the shadow of a powerful market (the U.S.). This proximity affects prices. Another substantial influence in setting prices is the importance of the export-import world market on Puerto Rico. Given these two dominating factors, it is not possible without additional analysis to determine an independent effect of the FSP on prices in Puerto Rico. Similarly the smaller NAP effect, if any, will be swamped by the dominant price setting factors.

### Conclusions

The implementation of the FSP represented a major injection of transfer, constituting nearly 10 percent of the Puerto Rican gross product. Consequently, the FSP played a significant role in increasing FSP participant's food consumption expenditures. Such an increase has also generated positive secondary economic impacts on successive levels of economic subsectors in terms of income and employment.

The Nutrition Assistance Program which replaced the FSP in July 1982 brought about two major changes. One is the reduction in benefit level and the other the cash-out of food stamps. The reduction due to NAP in terms of projected benefit levels if the Commonwealth had remained in the FSP during FY 1983 and the expected levels to be paid out in this fiscal year amounts to a 19.4 percent reduction. The comparative reduction for the next two years would be greater because of the constant \$825 million NAP budget level.



## Chapter VIII

### Impact of the Nutrition Assistance Program on Nutritional Well-Being

This chapter will consider whether converting the Food Stamp Program to the Nutrition Assistance Program (NAP) in Puerto Rico affected the nutritional well-being of program participants. Objectives of this chapter are to:

- o Describe the changes in nutritional adequacy of the diet of food stamp recipients in Puerto Rico prior to the conversion to NAP.
- o Estimate the plausible range of impacts on the nutritional adequacy of diets that could have resulted from the conversion to NAP.

Major findings of the chapter are that diets of households in Puerto Rico and the U.S. were similar in terms of overall levels of nutritional adequacy during the period of operation of the FSP. Diets of FSP households in Puerto Rico were less likely to be nutritionally adequate than diets of Puerto Rican households overall or of FSP households in the U.S. Based on known relationships between income, food assistance benefits, food consumption, and nutritional adequacy, it is estimated that about two to ten percent of all FSP households may not be meeting the Recommended Dietary Allowance (RDA) for one or more nutrients as a result of the conversion to NAP. However, it is concluded that the total effect of NAP on diets is likely to be closer to the lower end of the range of estimates

Food consumption and nutritional adequacy levels under the Food Stamp Program (FSP) will be placed in context by the examination of historical changes in food consumption patterns, by comparisons of average nutritional levels in Puerto Rico with those in the U.S., and by comparison of average nutritional level of Puerto Rican food stamp recipients with levels islandwide and with those of recipients in the U.S.

Changes in levels of nutritional adequacy estimated to result from NAP will be compared with levels attained under the FSP. Changes in food consumption and nutritional adequacy will be estimated from known statistical relationships among income, food stamp benefits, food consumption, and nutritional contents of foods.

### Data Sources and Limitations

There are no adequate baseline food consumption data for Puerto Rico in the period immediately preceding NAP nor any data on food consumption since NAP began in July 1982. Therefore, previous studies will be used to estimate the impact of program changes. The only source of data sufficiently detailed to support the needed analyses is the Nationwide Food Consumption Survey (NFCS) for Puerto Rico.

The Nationwide Food Consumption Survey. The NFCS was a nationwide survey of household and individual food consumption conducted in 1977-78. For the survey 34,000 individuals in 15,000 households were interviewed in the 48 coterminous states.

The NFCS for Puerto Rico was one of five special surveys conducted to supplement the NFCS and is the only comprehensive food consumption survey that has been conducted in Puerto Rico. From July to December 1977 an islandwide representative sample of 3,040 households was surveyed. The NFCS in Puerto Rico provides detailed information on food consumption of households (at home) and food intake of individuals (at home and away from home), from which the nutritional quality of household food supplies and individual intakes can be appraised. It provides data on home production and preservation of food, household income, participation in food programs, education and employment of household heads, and other factors that might affect food consumption.

Limitations of Data. There are major drawbacks to the use of this data base for evaluation of the nutritional impact of NAP. The NFCS was a cross sectional survey, one which gathered data over a short period of time rather than obtaining repeated measures over a span of time. These cross sectional data, moreover, were gathered in 1977, five years earlier than Puerto Rico's conversion to NAP. At the time of the survey the FSP was fully implemented in Puerto Rico, and nearly one half of the island's population participated. Under FSP rules in effect at the time, eligible households with net income could obtain food coupons only by purchasing them. The value of the coupons received was greater than the purchase price, and the excess value was referred to as the bonus amount. The bonus amount was the additional food purchasing power made possible by food stamp assistance. From 1979 to July 1982 the requirement to purchase coupons was dropped. Eligible households received at no cost to them the food assistance to which they were entitled in food coupons. The value of the food coupons received was called the benefit amount. Since July 1982 under NAP, eligible households have received their

food assistance benefits in the form of a mailed check. Because the NFCS was conducted in 1977 when the purchase requirement was in effect, the statistical relationships observed in the survey data may be different from the actual relationship between food stamp benefits and nutritional well-being immediately before the transition to NAP. Estimates of nutritional impacts of NAP based on NFCS data alone should be interpreted as tentative. In this report these estimates will be used only to establish a range within which NAP effects could plausibly fall.

Other Possible Data Sources. More recent data on food expenditure may be made available in the future from Puerto Rico. The Puerto Rico Department of Consumer Affairs conducted a survey to gather data on food expenditures in the last week of June 1982 for 1,000 food stamp recipient households. This was planned as the first wave of a panel study (i.e., repeated measures of the same persons) to assess the need for and the impact of a nutrition education program on food expenditure and nutritional adequacy of diets.

There are major concerns about the quality of the data collected:

- o The sample is not representative islandwide.
- o The data are for the last week of the operation of the Food Stamp Program when there may have been a rush to redeem unused coupons. Hence, the data may not represent usual food expenditure.
- o Food expenditure is not necessarily a good proxy for food consumed at home. In the NFCS for Puerto Rico 20 percent of all households reported some home production of food. In addition, two-thirds of all food stamp households did their major food shopping less frequently than once a week. Therefore, consumption of food from home inventories and replenishing stored food were major components of food consumption and expenditure.
- o The interview questionnaire had only a limited recall list for foods purchased, and there was no provision for reporting unlisted foods. Food quantity measures, furthermore, were not standardized.
- o No count was recorded of meals at home and away by household members and of meals eaten by guests in the home. This makes comparisons across households and across time problematic.





Table VIII-1

Per Capita Food Consumption in Puerto Rico,  
Farm Equivalent 1960-76  
(In pounds)

Food Items	1960	1970	1973	1976
Beef and veal	20.5	38.1	38.8	43.7
Pork	34.3	41.0	49.1	35.2
Poultry	14.9	37.5	43.7	53.3
Fish	11.1	14.0	15.1	13.8
Eggs	12.9	21.0	21.3	22.5
Dairy products	272.0	316.0	307.0	460.7 <sup>1/</sup>
Starchy vegetables	235.6	191.7	209.7	219.5
Cereals	229.7	236.1	248.2	217.0
Fruits	116.4	101.2	118.3	166.8
Fats and Oils	36.8	42.4	49.6	44.6 <sup>2/</sup>
Coffee, tea, chocolate, etc.	11.3	14.7	16.3	16.8
Legumes	33.3	25.0	24.4	18.9
Soups and spices	8.1	10.6	10.3	6.5
Total	1,036.9	1,089.3	1,151.8	1,319.3

Source: Commonwealth of Puerto Rico Planning Board, Department of Agriculture and Commerce.

<sup>1/</sup>Includes butter equivalent as fresh milk.

<sup>2/</sup>Excludes butter.

nutritional adequacy ratings. As indicated earlier, the major and most recent source of data on food consumption in Puerto Rico and the U.S. is the 1977-78 Nationwide Food Consumption Survey (NFCS). The household portion of this survey, covering only consumption of foods at home, will be used. Since food stamps are legally restricted to the purchase of groceries, data on food eaten away from home will not be included.

Patterns of Food Consumption. It is useful to compare and contrast Puerto Rican food consumption patterns with those of the U.S. Table VIII-2 compares weekly per-capita consumption of nine major food groups in terms of pounds of food by Puerto Rico and the U.S. households. Averages, of course, cover up major differences in consumption by income groups. It should be noted too that the U.S. survey was conducted in the spring while the Puerto Rican survey took place during the summer and fall. Seasonal differences in availability of fresh foods may partially explain some differences in food consumption

As indicated in Table VIII-2, consumption of meat, poultry and fish is similar for U.S. and Puerto Rican households. Puerto Rican households consumed more than U.S. households of milk, cream and cheese; vegetables, especially starchy vegetables; grain products; dry beans; fats and oils; and sugar and sugar equivalent foods. U.S. households consumed more eggs; fruits, especially citrus; dark green vegetables; and alcoholic beverages. Reported differences in alcoholic beverages, various types of sweets are in terms of weight and refer to at-home consumption only. They may be partly explained by differences in age composition of the respective populations, varying types of beverages and sweets consumed, and different habits regarding where these items are consumed.

In summary, NFCS data analysis for Puerto Rican and U.S. food consumption patterns indicated similarities in at-home food consumption, especially in terms of consumption of animal protein. Important differences were also found, especially for citrus fruits, dark green vegetables, grains, beans, fats and oils.

Nutritional Adequacy of Household Food Consumption: Puerto Rico and the U.S. Compared. Nutritional adequacy of food consumed by households in Puerto Rico may be viewed in better perspective by comparison with adequacy of food used by U.S. households. U.S. nutritional consumption is not here meant to represent the standard for a good diet. Rather it is presented as a familiar basis for comparison. As before, it

Table VIII-2  
Food Consumption by Households in the U.S. and Puerto Rico

Food Group	Puerto Rico Summer and Fall 1977	U.S. Spring 1977
	Pounds Per Person Per Week	
Milk, cream, cheese (calcium equivalent)	9.50	8.34
Meat, poultry, fish, and other protein food:	5.41	5.69
Meat, poultry, fish	4.49	4.78
Eggs (fresh equivalent)	.54	.66
Dry beans (dry weight)	.37	.12
Nuts (shelled weight)	.01	.13
Vegetables	5.94 <sup>1/</sup>	5.09
Potatoes (fresh equivalent)	.95	1.59
Dark green	.07	.30
Deep yellow	.21	.24
Tomatoes	.95	.71
Fruit	2.54	3.94
Citrus (single-strength juice equivalent)	.76	1.71
Grain products (flour equivalent)	3.71	2.16
Enriched or whole-grain (flour equivalent)	3.66	2.05
Fats, oils	.96	.70
Sugar, sirup, jelly, candy	.90	.83
Soft drinks, punches, prepared deserts:		
(sugar equivalent)	.42	.34
Alcoholic beverages	.23	.94

Source: USDA, Human Nutrition Information Service, Food Consumption and Dietary Levels of Households in Puerto Rico, Summer and Fall 1977, 1982 Analysis of Nationwide Food Consumption Survey.

<sup>1/</sup>Includes 2.5 pounds of starchy vegetables.

should be observed that average consumption for a population may hide important differences among income groups.

Table VIII-3 shows the proportion of all households in Puerto Rico and the U.S. surveyed which met the Recommended Dietary Allowance (RDA) for each of 11 nutrients, for the set of all 11 nutrients and for food energy.<sup>2/</sup> As before, seasonal differences in availability of foods may partially explain some differences in nutritional adequacy ratings.

About half of all households in Puerto Rico and in the U.S. met the RDA for the group of all 11 nutrients analyzed by the Nationwide Food Consumption Survey (49 percent for Puerto Rico, 47 percent for the U.S.). Puerto Rico and the U.S. scored differently, however, in terms of specific nutrients and food energy with higher proportions of Puerto Rican households meeting 100 percent of RDA for food energy and several nutrients. Compared to diets in the U.S., diets in Puerto Rico were considerably less likely to meet the RDA for vitamin A (62 percent for Puerto Rican households vs. 80 percent for U.S. households). Puerto Rican food consumption, however, was more likely to meet the RDA for calcium (75 percent for Puerto Rican households vs. 67 percent for the U.S.), magnesium (85 percent vs. 75 percent for the U.S.), food energy (85 percent vs. 76 percent for the U.S.), thiamin (92 percent vs 87 percent for the U.S., and vitamin B<sub>6</sub> (73 percent vs. 65 percent for the U.S.).

On the average, therefore, diets in Puerto Rico and the U.S. were similar in overall nutritional adequacy with about half of all households meeting the RDA for the group of 11 nutrients. Puerto Rican consumption scored higher on the average for calcium, magnesium, food energy, thiamin, and vitamin B<sub>6</sub>. Only for vitamin A did U.S. households, as a whole, score higher.

#### Nutritional Adequacy of Food Consumed by Puerto Rican Food Stamp Households:

Participant Households Compared with All Puerto Rican Households. We have discussed nutritional adequacy standards achieved by Puerto Rican households on the average,

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<sup>2/</sup>For explanations of the use of the Recommended Dietary Allowances (RDA) as a measure of nutritional adequacy of how foods were analyzed for nutrient composition, of how household size was adjusted for meals missed or consumed away from home, see HNIS, Preliminary Report No. 9. The Recommended Dietary Allowances published in 1974 by the Food and Nutrition Board, National Research Council - National Academy of Sciences are used as the standard.

Table VIII-3

Households Meeting the RDA for Selected Nutrients  
in Puerto Rico and the U.S. by Food Stamp Program  
Participation Status, 1977-78

Nutrients	Program Participants		All Households	
	Puerto Rico <sup>1/</sup>	U.S. <sup>2/</sup>	Puerto Rico <sup>1/</sup>	U.S. <sup>3/</sup>
	-----Percent of Households-----			
Food Energy	85	75	85	76
Set of 11 Nutrients	39	48	49	47
Protein	97	97	98	97
Calcium	69	64	75	67
Iron	86	80	87	84
Magnesium	83	72	84	74
Phosphorus	94	94	96	95
Vitamin A	53	80	62	80
Thiamin	92	90	92	87
Riboflavin	90	91	92	94
Vitamin B <sub>6</sub>	69	74	73	65
Vitamin B <sub>12</sub>	82	85	87	87
Vitamin C	88	93	92	93

Source: USDA, Human Nutrition Information Service, Food Consumption and Dietary Levels of Households in Puerto Rico, Summer and Fall 1977, 1982.

<sup>1/</sup> Based on the Puerto Rican segment of the Survey, Summer and Fall, 1977.

<sup>2/</sup> Based on the 1977-78 low-income segment of the Survey for Program Participants and non-participants.

<sup>3/</sup> Based on the Spring, 1977 segment of the Survey for all households.

comparing percent of Puerto Rican households meeting RDA with that of U.S. households meeting RDA. Because differences among income classes are masked by averaging, caveats were in order. This section focuses on nutritional adequacy of food stamp households, the poorest segment of the Puerto Rican population. Nutritional adequacy of food stamp households is put in perspective by comparing them with Puerto Rican households overall.

Table VIII-3 shows that the largest differences were found for the set of 11 nutrients (only 39 percent meeting the RDA for participants vs. 49 percent for all households in Puerto Rico) and vitamin A (53 percent vs. 62 percent). Fewer food stamp households met the RDA for calcium, vitamin B<sub>6</sub>, vitamin B<sub>12</sub>, and vitamin C - four to six percentage points lower as compared to Puerto Rican households overall.

The lower nutritional adequacy scores of Puerto Rican food stamp households as compared to Puerto Rican households overall can be explained by their lower incomes. Average gross monthly income for those included in the Nationwide Food Consumption Survey was \$252 for Puerto Rican food stamp households vs. \$498 for all Puerto Rican households. The literature on food consumption and nutritional adequacy has established that, on the average, higher household incomes are associated with higher values of food consumed at home which in turn are associated with a greater likelihood of meeting established Recommended Dietary Allowances.<sup>3/</sup>

Comparison of Food Stamp Households in Puerto Rico and the U.S. Table VIII-3 also shows the comparison of food stamp participants in Puerto Rico and the U.S. on the nutritional adequacy of their diets. Participants in Puerto Rico compare favorably to U.S. participants in terms of percent meeting the RDAs for food energy. On four of the 11 nutrients, a higher percentage of participants in Puerto Rico met the RDA than participants in the U.S.; on two others the percentages were the same. U.S. food stamp participants were more likely to be adequate on the entire set of 11 nutrients and especially were more likely to meet the RDA for Vitamin A. On four other nutrients U.S. participants were slightly more likely to meet the RDA than participants in Puerto Rico.

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<sup>3/</sup>Chai, J. C., Joel Teitelbaum, Grace Horowitz, "An Analysis of the 1977 Puerto Rican Food Consumption Survey with Emphasis on the Effects of Food Programs," USDA, Food and Nutrition Service, 1982.

Impact of the Nutrition Assistance Program on Nutritional Well-Being. In order to estimate the impact of the Nutrition Assistance Program on nutritional well-being in Puerto Rico we would have, ideally, for the period immediately preceding the conversion and for the period following, data including income, food program benefits, food consumption and a range of socio-demographic and economic variables. In the absence of such data the Nationwide Food Consumption Survey was relied upon as the only substantive source of data for the study of food consumption and nutrition in Puerto Rico. As was discussed earlier there are major drawbacks to the use of this data base for evaluation of the nutritional impact of NAP. The NFCS is a cross sectional survey, gathering data from one period of time. These cross sectional data are used in place of a time series to estimate impact of changes over a period of time. The data, moreover, were gathered in 1977, five years earlier than the period of program changes.

The analysis of nutritional impacts presented below is constructed from separate estimates of impact of change in cash income and food stamp bonus on value of food consumed at home and impact of change in the value of at-home food consumption on nutritional adequacy. These estimates, may be used to make rough statistical estimates of the effect of change in food program benefits on nutritional adequacy. This procedure will enable us to estimate plausible ranges of decline in nutritional adequacy of the diets of former food stamp households brought about by the reduced program funding and the cash form of benefits under NAP.

Statistical Relationship Between Change in Nutritional Assistance Benefits and Nutritional Adequacy of Diets. As was discussed in Chapter VII, it is possible to estimate the statistical relationship between change in income and change in at-home food consumption controlling for the effects of socio-economic and demographic variables. This relationship, which may be used to estimate the impact of an increase or a reduction in income is called the marginal propensity to consume (MPC). A similar procedure may be employed to estimate the relationship between change in at-home food consumption and change in receipt of any specific form of income on which there is data, such as the food stamp bonus or coupon.

Chapter VII presented estimates of the marginal propensity to consume food. Estimates were computed separately for cash income and for benefits in the form of coupons.



Based on these MPCs it was estimated that, in aggregate, expected food expenditures would decline by \$19-61 million due to benefit dollar decrease depending on whether NAP recipients use their check as cash or coupons. The reduction in aggregate food expenditures due to the cashout effect would be as high as \$177 million if recipients treat the check as cash or as low as no reduction if recipients use the check as they did their food stamp coupons. These estimates represent a reduction in aggregate food expenditures of 1 to 8 percent for Puerto Rico.

If households spend less for the foods they consume, then it is likely that the nutritional adequacy of their diets will decrease on average. One way to examine this outcome is to use known relationships between dollar value of food consumed by households and nutritional adequacy of household diets. Chai, et. al., have used the NFCS data from Puerto Rico to estimate the impact of a dollar change per capita per week in the value of food consumed at home on nutritional adequacy expressed in terms of percent of households meeting the RDA. Table VIII-4 shows this impact for each of 11 nutrients and food energy and the group of all 11 nutrients for households at the median level of food consumption.<sup>4/</sup> For vitamin B<sub>6</sub>, for example, a dollar change in the value of food used at home per week for households consuming in the median bracket would result in an estimated five percent change in the proportion of food stamp households meeting the RDA.

Table VIII-5 shows the range of estimated reductions in aggregate annual food consumption expressed in dollars per capita per week. The range of estimates is based on assumptions made about food expenditure behavior of NAP recipients, i.e., whether they use their check as cash or coupons. These values are expressed separately as estimated

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<sup>4/</sup> Impact of change in money value of food used at home on percent of households meeting the RDA will vary with food consumption bracket. A change in value of food consumption can always be expected to change nutrient consumption for a given population but will differ in its effect on nutritional adequacy, i.e., percent of households meeting the RDA. In low food consumption brackets, where few households meet the RDA, an increase in nutrient consumption can be expected to enable some households to meet their recommended allowance. In high consumption brackets where a large proportion of households are already consuming at or above the RDA, much of the increase in nutrient consumption would serve only to put households even further above their RDA's. The converse is true for a decline in money value of food used at home. Therefore, the median food consumption bracket is used here to show the impact of a change in money value of food used at home on the percent of households meeting the RDA.

Table VIII-4

Average Impact of a Dollar Change in Money Value of Food Used at Home<sup>1/</sup>  
on Percent of Food Stamp Households Meeting RDA for Selected Nutrients

Nutrient	Percent Change in Households Meeting RDA
Food Energy	3.0
Set of 11 Nutrients	4.8
Protein	0.8
Calcium	4.0
Iron	2.8
Vitamin A	4.2
Thiamin	1.8
Riboflavin	2.2
Vitamin C	2.4
Magnesium	3.2
Phosphorus	1.5
Vitamin B <sub>6</sub>	5.0
Vitamin B <sub>12</sub>	3.2

Source: FNS 1983 Evaluation of the Puerto Rico Nutrition Assistance Program. Analysis of NFCS data.

<sup>1/</sup>Money value of food consumed at home is expressed as per-capita dollars per week.

Table VIII-5

Reduction in the Percent of Food Stamp Households  
Meeting the RDA for Selected Nutrients Due to  
Effects of Benefit Reduction and Cashout

Nutrient	Range of Estimated Effects					
	<u>Benefit Reduction</u>		<u>Cashout</u>		<u>Total</u>	
	MPC=.10 <sup>1/</sup>	MPC=.33 <sup>2/</sup>	MPC=.10	MPC=.33	High	Low
Food Energy	0.6	2.0	5.7	0	7.7	0.6
Set of 11 Nutrients	1.0	3.2	9.1	0	12.3	1.0
Protein	0.2	0.5	1.5	0	2.0	0.2
Calcium	0.8	2.6	7.6	0	10.2	0.8
Iron	0.6	1.8	5.3	0	7.1	0.6
Vitamin A	0.8	2.8	8.0	0	10.8	0.8
Thiamin	0.4	1.2	3.4	0	3.6	0.4
Riboflavin	0.4	1.5	4.2	0	5.7	0.4
Vitamin C	0.5	1.6	4.6	0	6.2	0.5
Magnesium	0.6	2.1	6.1	0	8.2	0.6
Phosphorus	0.3	1.0	2.8	0	3.8	0.3
Vitamin B <sub>6</sub>	1.0	3.3	9.5	0	12.8	1.0
Vitamin B <sub>12</sub>	0.6	2.1	6.1	0	8.2	0.6
Reduction in Annual Aggregate Food Consumption (Million Dollars)	18.6	61.4	177.3	0	238.7	18.6
Reduction in Per Capita Weekly Food Consumption (Dollars)	.20	.66	1.90	0	2.55	.20

Source: FNS 1983 Evaluation of Puerto Rico Nutrition Assistance Program. Analysis of Nationwide Food Consumption Survey.

<sup>1/</sup> Assumes recipients use NAP benefits as if cash.

<sup>2/</sup> Assumes recipients use NAP benefits as if coupons.

benefit reduction and cashout effects and the combined NAP impact. Table VIII-5 also shows the expected changes in percent of households meeting the RDA for food energy, a set of 11 nutrients, and each of the 11 nutrients.

Based on our analysis it can be expected that about one to twelve percent of all FSP households may not be meeting 100 percent of the RDA for one or more of the set of 11 nutrients as a result of the NAP conversion. In terms of specific nutrients, it is estimated that the impact of the NAP conversion has been greatest for Vitamin B<sub>6</sub> and Vitamin A and least for protein and phosphorus.

Due caution should be observed in interpreting these estimates of reduction in households meeting Recommended Dietary Allowances. Cross sectional data are used in the absence of time series for the NAP conversion period. These data are over five years old. Most important, the high estimates of cashout effect and total NAP impact are based on the assumption that NAP recipients use their checks just as they use cash. However, it is known that a large majority of NAP checks are cashed in food stores and that recipients report that their shopping patterns have not changed substantially. From these findings it seems likely that most recipients use checks more like coupons than like cash and, therefore, that the total NAP effect on diets is closer to the low end of the range of estimates. This conclusion is further supported by the results of the SSI Cashout Demonstration,<sup>5/</sup> the only study to date which has compared cash versus coupon benefits directly. In that study there was no significant cashout effect; recipients' food expenditures were not less when benefits were in the form of cash rather than coupons.

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<sup>5/</sup> Food and Nutrition Service, USDA. "Food Stamp SSI/Elderly Cashout Demonstration, Final Report." Alexandria, VA, June 1982.

## Appendix A

### Chronologies of the Conversion of the FSP to NAP and Excerpts From Press Coverage of NAP in Puerto Rico

## Excerpts From Press Coverage of NAP in Puerto Rico

Mr. Augusto Amato, Director of the Banco Popular Economic Studies Division, stated that the change from coupon to checks would not decrease fraud (El Mundo, June 7, 1982). Mailed checks can be stolen, he added, and many participants live in rural areas where mail boxes are not well protected. He predicted that the change would affect three aspects of the economy: commerce, the monetary system, and the underground economy. For food items he forecast a drop in the more expensive food products imported from the U.S. but no sales decreases for basic products of the Puerto Rican diet (rice, beans, etc.). Department stores sales would suffer a considerable decrease, he warned. The underground economy which comprises between 14 and 15 percent of the Puerto Rico economy, would also be affected. Mr. Amato believed that money spent in illegal gambling, prostitution, drugs and alcoholic beverages would increase. In the same article, Mr. Mariano J. Mier, President of the Bankers Association, estimated that there would be more than one million checks in circulation thus increasing work and waiting lines in the banks and other check cashing establishments. During orientation meetings given by DSS to bank officials, the Bankers Association once again expressed their concern regarding fraud and long lines.

The wholesalers and retailers were also opposed to the change to a cash system. The President of the Wholesalers, Retailers and Distributors of Food (MIDA), Mr. Atilano Cordero Badillo, expressed his opposition because there were no guarantees that the checks would be used exclusively for food (El Nuevo Dia, February 26, 1982). Likewise the President of The Association In Defense of Free Enterprise, Mr. Jose Molinelli, opposed the change from food stamps to checks (El Mundo, March 11, 1982). He considered the change would reduce the effectiveness of the Food Stamp Program in providing adequate nutrition to needy families since the recipients could spend the money without restrictions. On another occasion Mr. Molinelli expressed his belief that the checks would subsidize games of chance, horse races, and the consumption of alcoholic beverages (El Mundo, April 12, 1982).

The Secretary of Social Services, Dr. Jenaro Collazo Collazo, replied by saying that dissolute and irresponsible persons are found in all social strata and that the majority should not be penalized for the few (Mundo Alimentizio, May, 1982). He added that there

is no valid reason to connect or blame vice, legal or illegal games, on poor families, the elderly, the blind, or the disabled. These persons, he insisted, are as responsible and have as much dignity as persons with more resources and without physical or mental limitations. Dr. Collazo also pointed out that food stamps are prone to be used more easily for fraud and to take advantage of the needy persons that receive them, than a high security check that requires endorsement or ID in order to be cashed.

Mr. Angel Negron, Manager of the Grand Union Supermarket in the Centro Comercial 65 de Infanteria, expressed opposition to the change from food stamps to checks (El Mundo, February 25, 1982). He said that many persons tried to buy cigarettes and alcoholic beverages with food stamps; he believed this would happen more frequently if they receive the cash. Mr. Negron also said that the change would have an adverse effect on the small grocery stores where the majority of the clients use food stamps; this would be more obvious in the rural areas.

Mr. Horacio, Figueroa, President of the Chamber of Wholesale Merchants, endorsed the Food Stamp Program, and indicated that in case there was a change to another system (like the check system) it should guarantee that the money be used exclusively for the purchase of food (El Mundo, February 1982). He also made clear that his organization would oppose any system that is not used exclusively for the purchase of food, and that does not meet the necessary measures of control to avoid fraud or misuse by unscrupulous merchants or recipients.

Some professionals on the island expressed their opinion about the change during conferences and meetings offered by DSS. Their main concerns were the possible uses the recipients would make of cash and the impact this would have on the economy. An example of this position are the comments made by Dr. Antonio J. Gonzalez, an economist, against the change. He speculated that:

- o Persons will use the money to buy other articles besides food, this would contradict the purpose of the law that created the Food Stamp Program.
- o Supermarkets sales would decrease. He calculated that if families participating in the program were to spend 30 percent of their benefits for non-food items this would represent a reduction of close to \$250 million in supermarket sales.

- o There would be an increase in the purchase of personal items (clothing, shoes, etc.) and household products.
- o There would be an increase of money spent in games of chance.
- o Banks will not be able to process the cashing of \$850 million in checks to persons without accounts. This will force the recipients to cash their checks by paying a commission of up to two percent, which would mean a loss to the client.
- o There is a possibility that the lack of cashing facilities will revive the practice of cashing checks for a 25 percent discount.



Table A-1

Chronology of Federal Activities in Converting  
Puerto Rico's Food Stamp Program to the Block Grant

Month/Year	Activity
July 1981	<ul style="list-style-type: none"> <li>- FNS prepares profiles on FNS programs in Puerto Rico</li> <li>- FNS planning task force formed and given its mission</li> </ul>
August 1981	<ul style="list-style-type: none"> <li>- Omnibus Budget Reconciliation Act of 1981 (PL 97-35) Enacted 8/13/81</li> <li>- Requirements of PL 97-35 analyzed</li> <li>- Task force develops and presents issue papers</li> </ul>
September-October 1981	<ul style="list-style-type: none"> <li>- Conversion issues considered and initial policy decisions made (policy determinations continued)</li> </ul>

Table A-1 (Continued)

Month/Year	Activity
March 1982 (Continued)	<ul style="list-style-type: none"> <li>- Property records reviewed and discussions held between CAO** and Puerto Rico DSS</li> <li>- Notices to stores and banks drafted</li> <li>- Interim rule published on block grant implementation under PL 97-35</li> <li>- Puerto Rico submits Plan of Operation (3/24/82)</li> </ul>
April 1982	<ul style="list-style-type: none"> <li>- Puerto Rico Plan of Operation reviewed by MARO and Washington offices</li> <li>- Puerto Rico Plan of Operation approved by USDA (4/26/82) but special projects approval withheld pending additional information</li> <li>- MARO develops coupon destruction plan for Puerto Rico</li> <li>- Congressional hearings on cash out</li> </ul>
May 1982	<ul style="list-style-type: none"> <li>- FNS' Minneapolis Finance Center sends notices to stores and banks concerning closedown of FSP and deadlines for coupon redemption</li> <li>- MARO develops plan for final FSP coupon issuance in Puerto Rico and conducts field training needed to accomplish plan</li> </ul>
June 1982	<ul style="list-style-type: none"> <li>- MARO issues press releases concerning closedown of FSP and conversion to NAP</li> <li>- CAO takes inventory of FSP coupons in central storage</li> <li>- CAO validates recent FSP coupon shipments</li> <li>- MARO, CAO, and OIG staffs assist DSS in collection of unused FSP coupons from issuance sites.</li> <li>- Three special projects conditionally approved by FNS</li> <li>- Last date to exchange ATP's for coupons (6/30/82)</li> </ul>
July 1982	<ul style="list-style-type: none"> <li>- Nutrition Assistance Program begins in Puerto Rico</li> <li>- MARO, CAO, and OIG staffs assist DSS in collection of unused FSP coupons from issuance sites.</li> <li>- MARO, CAO, OIG and DSS staff verify amount of unused FSP coupons</li> <li>- Unopened cartons of FSP coupons shipped to Virgin Islands</li> <li>- Remainder of unused FSP coupons burned in industrial furnace under supervision of MARO and OIG staff</li> </ul>

\*\* CAO is the Caribbean Area Office, FNS, USDA under MARO.

Table A-1 (Continued)

Month/Year	Activity
July 1982 (Continued)	<ul style="list-style-type: none"> <li>- FNS rejects Puerto Rico's employment services special project</li> <li>- Last day retail food stores could accept coupons (7/31/82)</li> </ul>
August 1982	<ul style="list-style-type: none"> <li>- Last date retail food concerns could redeem coupons at banks (8/27/82)</li> <li>- Authorizations for participating retail food stores and wholesale food concerns terminated</li> </ul>

Table A-2

Chronology of Puerto Rico's Activities in Converting  
Puerto Rico's Food Stamp Program to the Nutrition Assistance Program

Month/Year	Activity
February 1981	<ul style="list-style-type: none"> <li>- PR Government discusses the impact of FSP funds reduction.</li> <li>- Governor of PR and Resident Commissioner in Washington, DC state opposition to funds reductions to U.S. Congress.</li> <li>- DSS discussion of possible food assistance block grant for PR.</li> </ul>
July 1981	<ul style="list-style-type: none"> <li>- Planning committee formed to analyze options for use and distribution of block funds in DSS:               <ul style="list-style-type: none"> <li>• Preparation at DSS of document "analysis to determine actions to be taken regarding block grant funds."</li> <li>• Preparation of document by the Governor's Economic Advisory Council - "Effects on Puerto Rico of the Reagan Block Grant proposal: Capsule Summary of Econometric Projections."</li> </ul> </li> </ul>
August 1981	<ul style="list-style-type: none"> <li>- Puerto Rico Block Grant Law 97-35 enacted (8/13).</li> <li>- Analysis of the law, its requirements and flexibility in formulation of regulations for DSS by the committee.</li> </ul>
September 1981	<ul style="list-style-type: none"> <li>- White House Task Force visit Puerto Rico (9/14).</li> <li>- USDA officials meet with the DSS work committee.               <ul style="list-style-type: none"> <li>• Discussion over change to block funds.</li> <li>• Presentation by DSS of alternatives                   <ul style="list-style-type: none"> <li>-vouchers</li> <li>-coupons</li> <li>-checks</li> </ul> </li> <li>• Discussion and evaluation of the alternatives.</li> <li>• USDA Office of General Counsel gives verbal approval for check usage.</li> </ul> </li> </ul>
October 1981	<ul style="list-style-type: none"> <li>- DSS planning committee formulates basis of State Plan of Operation.               <ul style="list-style-type: none"> <li>• Simulations begun to determine changes in benefit tables and method for check distribution.</li> </ul> </li> </ul>

Table A-2 (Continued)

Month/Year	Activity
October 1981 (Continued)	<ul style="list-style-type: none"> <li>• Consultation with different FSP divisions to obtain needed information.</li> <li>• Meetings with heads of appropriate agencies for special projects to be included in the plan.</li> </ul>
November 1981	<ul style="list-style-type: none"> <li>- First draft of State Plan of Operation (11/11).</li> <li>- Presentation of drafted Plan of Operation to Governor's office.</li> <li>- Discussions begun with Governor's Economic and Financial Council.</li> </ul>
February 1982	<ul style="list-style-type: none"> <li>- Governor Romero announces change to cash-out at press conference during meeting of Governors National Association in Washington, DC.</li> <li>- General public and diverse sectors take positions about the NAP food check.               <ul style="list-style-type: none"> <li>• Some recipients favored the change to checks, others did not.</li> <li>• Banking circles were concerned with the volume of money in circulation monthly and with possible fraud to be committed with checks.</li> <li>• Food retailers and wholesalers were strongly opposed to change to checks.</li> </ul> </li> </ul>
March 1982	<ul style="list-style-type: none"> <li>- DSS analyzes interim regulations and provides comments to USDA (3/12).</li> <li>- NAP Plan of Operation submitted to FNS, USDA (3/24).</li> <li>- DSS committee for check selection designated               <ul style="list-style-type: none"> <li>• Meeting with experts on negotiable documents security.</li> <li>• Evaluation of security measures to be used.</li> <li>• Evaluation of best check design.</li> <li>• Preparation of bidding specifications.</li> <li>• Preparation of recommendations.</li> </ul> </li> </ul>
April 1982	<ul style="list-style-type: none"> <li>- Alterations of NAP Plan negotiated by Mr. Manuel Porrata and MARO.</li> <li>- USDA approves NAP Plan of Operation with-holding approval of special projects pending additional information (4/23).</li> </ul>

Table A-2 (Continued)

Month/Year	Activity
May 1982	<ul style="list-style-type: none"> <li>- Advertisements describing NAP appear in four major newspapers (5/5 to 5/24).</li> <li>- Training in NAP procedures is begun for regional and local supervisors and program managers (5/7 to 5/12).</li> <li>- Daily radio spots broadcast on 35 stations islandwide re closedown of FSP and new NAP check system (5/17 to 5/21).</li> </ul>
June 1982	<ul style="list-style-type: none"> <li>- Daily radio spots broadcast islandwide re closedown of FSP and new NAP check system (6/7 to 6/11).</li> <li>- Training in NAP procedures begun for caseworkers (6/7 to 6/18).</li> <li>- Articles re program conversion appear in three highest circulation newspapers (6/14 to 6/16).</li> <li>- TV commercials broadcast re same conversion information given through newspapers and radio (6/18 to 6/26).</li> <li>- Caseworker training in NAP procedures completed (6/21 to 7/2).</li> </ul>
July 1982	<ul style="list-style-type: none"> <li>- NAP implemented (7/1)</li> <li>- Islandwide "Hotline" established to handle inquiries and complaints re program conversion.</li> <li>- Daily radio spots broadcast islandwide re closedown of FSP and new NAP check system (7/15 to 7/21).</li> </ul>

## **Appendix B**

### **Technical Issues Related to Analyses of Supermarket Sales Data**

## Technical Issues

### Use of "Fixed Effects" Model in Disaggregated Regressions

A technical problem which had to be addressed in specifying the disaggregated regression analysis based on individual store-month observations is the potential correlation of the random disturbance term across time periods for the same store in the sample. In particular, each store appears in the regression 41 times and it is likely that the disturbance terms for these observations are correlated, thus violating one of the basic assumptions of the ordinary least squares regression model.

One potentially desirable way of dealing with this problem would be to use an "error components" model which explicitly takes the nondiagonal structure of the covariance matrix of the disturbance term into account.<sup>1/</sup> However, the very limited time available for the analysis precluded the use of this approach.

As an alternative, the analysis of the supermarket data has been based on a "fixed effects" regression model, which is an adaptation of the "covariance" model.<sup>2/</sup> Essentially, the approach of this method is to suppress the constant term and insert into the regression a binary variable for each of the stores in the sample—a total of 99 binary variables. These dummy variables control for the fixed effects of the individual stores and thus greatly reduce the potential for correlated disturbance terms.

Use of the fixed effects model approach, however, leads to a practical problem which is that estimating a regression with more than 100 regressors is beyond the capability of many regression programs, and when it is possible, is very expensive. This problem has been solved by using an approach recently used by Charles Brown in an analysis of labor market wages.<sup>3/</sup> Suppose that it is desired to run the regression

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<sup>1/</sup> For a description of the error components model, see Jan Kmenta, Elements of Econometrics, (New York: MacMillan Publishing Co., 1971): 514-516.

<sup>2/</sup> Ibid., pp. 516-517.

<sup>3/</sup> Charles Brown, "Equalizing Differences in the labor Market," Quarterly Journal of Economics, Vol. 94, no. 1 (February 1980): 112-134.



$$F_{it} = D_{it}A + X_{it}B + e_{it}$$

$i$  = a subscript running over stores

$t$  = a subscript running over time periods

$F_{it}$  = food sales

$D_{it}$  = a set of binary store indicators such that  $D_{i1} = D_{i2} = \dots = D_{iT} = 1$  for store  $i$  and  $= 0$  for other stores

$X_{it}$  = matrix of explanatory variables

$A$  and  $B$  are parameter vectors

$e_{it}$  = disturbance terms

Define

$$DF_{it} = F_{it} - \frac{1}{T} \sum_{t=1}^T F_{it}, \quad \begin{array}{l} i = 1, 2, \dots, (\text{number of stores}) \\ t = 1, 2, \dots, T \end{array}$$

$$DX_{ijt} = X_{ijt} - \frac{1}{T} \sum_{t=1}^T X_{ijt}, \quad j = 1, 2, \dots, (\text{number of X's})$$

It can be shown that regressing  $DF$  on  $DX$  gives the same estimates of  $B$  and  $A$  as regressing  $F$  on  $X$  and the set of individual-specific intercepts.

This procedure involves computing deviations from store averages, by store, for each of the variables in the regression and then regressing the deviations in the dependent variable on the deviations in the independent variables. In doing this, of course, the store dummy variables and any other variables (including the constant term) which do not vary over time for a given store drop out of the regression. Thus, this method cannot be used to obtain estimates of the parameters associated with such variables.<sup>4/</sup> The estimates of the coefficients for the other variables are mathematically equivalent to those that would be obtained from the untransformed regression with the store dummy variables.

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<sup>4/</sup> Note that these parameters also cannot be estimated by using the store dummy variables in a regression on the untransformed variables. This is because any variable which measures a quality that varies across stores but not across time can be expressed as a linear combination of the store dummy variables. The effects of such variables are included in the coefficients on the store dummies in the regression on the untransformed variables.

### Serial Correlation

Another potential problem in the regression analysis is serial correlation in the disturbance terms from one month to the next. In the regression estimates using aggregated monthly averages, this problem can be dealt with using standard techniques for assessing, and if necessary, adjusting for this problem.<sup>5/</sup> We have done this, and as explained in our discussion of the regression results, serial correlation is not a problem in the regression on aggregated data.

However, in regressions which use the individual store-month as the unit of observation, standard econometric techniques for dealing with serial correlation are not directly usable, because the data set contains repeated observations for the same periods. Again, an error components model would be an attractive potential solution, but as noted above, the use of this technique was not feasible given time constraints. However, to the extent that invariant store-specific factors influence sales in each time period, the fixed components model which we have adopted reduces the serial correlation problem. This procedure does not produce estimators which are as efficient as those produced by the error components model. However, the estimators are consistent, unbiased, and more efficient than those produced by applying ordinary least squares to the pooled data while constraining all stores to have the same constant term.

To some extent, the lack of substantial serial correlation in the aggregated regression is reassuring with regard to the possible seriousness of this potential limitation of the disaggregated regressions. However, it should be recognized that it is very likely that there is greater serial correlation in the time series data for the individual stores than there is in the time series of data averaged across stores. This is true because, if serial correlation patterns are different for different stores, then serial correlation which is present at the individual store level may "net out" in the aggregated data. If sufficient time were available, another potential solution to this serial correlation problem in the individual data would be to use ARIMA<sup>6/</sup> (integrated autoregressive-moving average)

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<sup>5/</sup>Kmenta, Elements of Econometrics, pp. 269-297.

<sup>6/</sup>Robert S. Pindyck and Daniel L. Rubinfeld, Econometric Models and Economic Forecasts, 2nd ed., (New York: McGraw-Hill Book Co., 1981): 473-554.

methods to transform the individual store data prior to using them in the regressions. However, this would be both expensive and time consuming, and it was therefore not feasible.

#### Functional Form of Regressions

As noted earlier, the sales volumes of individual stores in the sample vary greatly. In view of this, the use of a linear model for the specification of the disaggregated regression would not be appropriate. Use of such a model would involve the untenable assumption that the NAP had the same effect on the absolute sales volume of a small store as for a larger one.

A more reasonable specification, and the one which we have used in the analysis, is one in which all dollar-denominated variables (gross sales and sales of competing Grand Union stores before they went out of business) are transformed using natural logarithms, but in which the remaining explanatory variables are entered linearly. In the disaggregated regression, this functional form allows the NAP to have the same percentage effect on the sales of all stores. This is a much more reasonable assumption than the constant absolute effect assumption. With this functional form, the estimated coefficients on the nonmonetary variables can be interpreted as showing the percentage effects on sales resulting from unit changes in such variables. The estimated coefficient on the Grand Union sales variables is an elasticity, which shows the percentage effect on sales resulting from a one percent difference in the sales of a former Grand Union competitor.

In the aggregated regressions, based on monthly sales averages across stores, either a linear or a logarithmic specification would be reasonable, and both were used in preliminary examinations of the data. For comparability with the disaggregated regressions, the results reported below are based on the logarithmic specification.

#### Analysis of Aggregated Data

Table VI-2 presents the results of a regression analysis in which the dependent variable is the average of the monthly sales of all stores in the sample. The explanatory variables in the regression include a binary variable which is 1 during the NAP period and 0 otherwise, as well as variables reflecting the Island unemployment rate and time and seasonal factors. A dummy variable which takes on a value of 1 when one of the supermarket chains used a 5 week month as an accounting period and 0 otherwise is

Table B-1  
Regression Analysis of  
Average Monthly Sales<sup>a</sup>

Variable	Estimated Coefficient <sup>b</sup>	Mean of Variable	Standard Deviation of Variable
Intercept	6.03954* (67.5993)	1.0	0.0
Time	0.00089 (0.7015)	21.0	11.97915
Quarter 1	-0.04950* (2.7451)	0.21951	0.41906
Quarter 2	-0.01995 (1.0993)	0.21951	0.41906
Quarter 3	-0.00665 (.3961)	0.29268	0.46065
December	0.16476* (6.7016)	0.07317	0.26365
Unemployment rate	0.08567 (0.1477)	0.19405	0.02524
NAP	-0.00287 (0.1239)	0.12195	0.33129
5-week-month	0.01849 (1.5677)	0.36585	0.48765

N: 41

Mean of dependent variable: 6.07559

R<sup>2</sup>: .7522

Durbin-Watson Statistic: 2.0993

Source: FNS 1983 evaluation of the Puerto Rico Nutrition Assistance Program. Analysis of monthly supermarket sales data, July 1979 - November 1982.

<sup>a</sup>The dependent variable is the natural logarithm of the average monthly sales of 99 supermarkets, in January 1982 dollars.

<sup>b</sup>Absolute values of "t" statistics are shown in parentheses.

included to correct for this reporting anomaly. The estimated coefficients can be interpreted as showing the percentage effects on monthly sales of unit changes in the relevant variables. In general, these regression results are consistent with the descriptive analysis presented earlier. The NAP variable enters the equation with a negative sign, but it is extremely small and is not statistically significant. This indicates that, after controlling for time trends and other factors, no NAP effect is discernable in the aggregate data.

The time variable enters the equation with a positive but statistically insignificant coefficient. This coefficient implies that there was a very weak positive trend in constant dollar sales during the period covered by the sample. The unemployment variable enters the equation with a positive but relatively small and insignificant coefficient. This result is unexpected, but it is not surprising in light of the fact that a period of relatively very high sales volume, summer 1982, happened to correspond, for reasons that are not clear, to the months in the sample period with the highest unemployment rate. The regression results also indicate that sales tend to rise very substantially in December of each year (by about 16 percent on average) and then fall noticeably below average in the first quarter of the year.

One technical issue to note in the results of this aggregated regression is that the Durbin-Watson statistic is 2.0993. The range of possible values of the Durbin-Watson statistic is from 0 to 4. Low values indicate the presence of positive serial correlation and high values indicate the presence of negative serial correlation. Durbin-Watson statistics near 2 indicate the absence of serial correlation. Because the Durbin-Watson statistic in table VI-2 is quite close to 2, we conclude that serial correlation is not a problem in the regression analysis of the aggregated sales data.